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NEW YORK

DENTAL RECORDER,

DEVOTED TO THE THEORY AND PRACTICE OF

SURGICAL, MEDICAL AND MECHANICAL DENTISTRY.

EDITED BY

C. C. ALLEN, M. D., DENTIST.

VOLUME V.

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Vol. V.

OCTOBER, 1850.

No. 1.

RANDOM SHOTS.

BY S. M. HOBBS.—NUMBER THREE.

The File.

A most excellent instrument, indeed, is the File. But it is not always made so. Perhaps there is not, in the entire range of the dentist's *escritoire*, an instrument more abused, or which has had more ill-natured things said of it. Unjustly, as a matter of course. No man who is not a knave, a fool, or a madcap up to his very ethereal scalp will venture to condemn it in toto. Yet we know that some do condemn it with all the face and breath which a bad nature and a worse education can command. The File lives notwithstanding, and will grow and flourish just as skill and science near the happy goal of perfection. The day that witnesses the last file drop from the operator's hand will either see no unsound teeth or no *sound dentists*.

The File meets three classes in the profession. First, those who will not use it at all; second, those who use it with fear and trembling, with neither heart nor hand to ply it with vigorous efficiency; and thirdly, those who use it as it should be used—bravely, heroically, confidently, scientifically, naturally.

The first class—those who will not use it *in any instance*—are not numerically, certainly not *mentally*, over-strong. Yet they compose an *entity* sufficient to pin a shot upon. We have often met them and so know their existence is a palpable, eyeable, hearable fact. They are notorious for the pomp and circumstance with which they give their opinions, and as proverbially marked for the gabbling frivolity and vapid imbecility with which they *attempt* to sustain their positions. They are characterized by the grossest ignorance, and know as little of anatomy as they do of manners and common sense. In short, they are just and precisely that class which some dark, midnight hour graduates from the stable, the drinkery, the barber's or blacksmith's shop: or escapes the scavenger, or the ploughman, and in the morning, under the blaze of a golden sign and a thundering newspaper puff, is a full-fledged

blustering, all-knowing, self-inflated dentist. *They* are the *giants* who condemned the File! "It makes too much *noise*, and cannot be well," is the substance of their speech. As all *respectable* dentists will not compromise their character by meeting and righting these doughfaces, (I cull from political boquets,) and, as they never read, nor much less *think*, they live alone, bestrewn their pompous illiteracy on the ways of life, of course cursing every people where their opinions fall. To a certainty this class can never give skill, character, or permanency to their operations.

The second class are the *Timids*. They are not much better than those who never touch the File. A thing half done had better never be done at all. Above all things a half-filed tooth, is the sorriest sight looked upon. True, it shows a good design, but a very bad execution. The File is worse than nothing if it be not applied with a bold hand and a confident heart. Here it meets its own true end, and nowhere else. It will not answer to be *timid*. Temporising, fearing, doubting is sure to end in defeat. The File is the dentist's best friend. We consider that teeth as they come could no more be plugged independent of the File than of the plugger itself. Indeed in one sense a tooth separated with a bold and discriminating hand may already be said to be half plugged. The best dentists we have ever known have been famously liberal and heroic with the File; while we never knew a trembling, palpitating, untrusting operator meet with anything like success. And all this in reason. Nothing strange in it, not a particle. In plugging teeth *room* for the instrument *must be had*. Otherwise it is futile, useless, foolish to do anything. Every operator with a shadow of brain understands this. Therefore, oh ye of little faith, and less courage, at once throw aside your destructive timidity and give "ample room and verge enough" to this king of instruments. Really and profoundly study the teeth—their diseases, locality, and remedy, and you will at once see the utter necessity of a generous, hearty use of the File. Any use short of this is arrant *quackery*. As you are, or ought to be, above such business, at once commence its use freely, fully, plumply.

The third class are those who use the File with true heroism. They make the height and substance of the profession. They possess the bold hand and sustaining heart. As well deprive them of an arm, an eye, a brain. It is entirely indispensable. Without it they would not practice the first day. What would avail the best skill, the highest knowledge in plugging half the teeth we meet, if the File was to be kept from them? Nothing. And for the sufficient reason that neither

the disease would be got at or a remedy applied. You cannot lift a fifty-six with a five pound power, nor put your foot where only a pin-head can be thrust. Be assured that the best dentist is he who uses most and has the highest confidence in the File. It is he, and he alone, who sees, judges, reaches, and remedies the disease. You may trust him implicitly. He has studied his business, sounded nature and reason, and has an available stock of common sense. Hence his course ; hence the course of everything above the miserable quack.

This class is the savor and rose of the profession, as we before substantially remarked. We never hear of a dentist using his File vigorously but we look for a man of science. We well know that quackery sometimes makes frightful ravages in *radicalising*—heroising, some may say—but it is a weak eye that does not instantly discover the destructive hand of one, and the saving hand of the other. A cheering, warming fire does not require you to burn your whole dwelling. The noble-heroic use of the File always supposes, and should be understood, as carrying with it the highest practicable skill. This is the class and this the operation we are depicting.

Impressions.

This is a world of *impressions*, and everybody outside a tap-room is very properly after a good one. But to the dentist it has a peculiar and emphatic significancy. With him an impression is not only a matter of personal policy, but of professional duty.

What substance shall we use in modeling the mouth ? Some up-and-down-ly assert the *specificity* of the pure beeswax of commerce ; some, prepared plaster of paris, and others, various compounds of wax with lead, whiting, &c., &c., &c. A score or more of methods are before the public, endorsed in black and white, each modestly pretending and asserting its superiority. It requires some new course of reasoning to believe they *all* can be *the best*. What method, then, has the balance of probability in its favor ?

Taking our own limited experience we have never found anything that has outdone the best beeswax. We have traversed the circle with what humble care and judgment nature and life have "gifted" us, and in the end readily come back to the veritable wax. We have sometimes thought that that profusion of fault so often brought against it was as much in the careless hand as in the wax itself. Like all other operations in dentistry, it requires to be used with exceeding care. No bungler, nor "steamer," nor "driver" can of course find much merit in it. The dentist who *throws* wax into the mouth and then asks his patient to

spit it out, is not likely to get a sufficiently correct counterpart, to be *very* enthusiastic in its praise.

It is essential, in the employment of wax, that it be of suitable temper, which, in general terms, is that point when it is just plastic enough to be forced round the teeth with considerable pressure. We think it is generally used in too soft a state. The facility with which it receives the insertion of the teeth and maxilla, will as readily displace its precision, and continually mislead the operator. Whereas, if it be inserted in a somewhat more resistive consistency, its removal will be more perfect and reliable. The wax should also be new and pure. Such works easier, is more impressible, and more grateful to the eye. The flame of the alcohol lamp will be found much better to soften it than hot water. The latter *unvitalizes* the wax, making it unfit to be used after a few heatings; while the flame preserves it in fine condition for a longer while. There is no advantage in *coloring*, as all such matter gives unfavorable action to the wax.

In certain peculiar cases plaster may be usable—perhaps almost the best substance known. But still with solicitous care we believe a pure and fresh article of wax the best. It is much more convenient to the dentist, and far more agreeable to the patient.

We had almost forgotten *gutta percha*. This we think superior to plaster, and may be frequently applied with good success. It has, too, this advantage over plaster, that it may be used in partial dentures. Now and then cases are met with where it is even better than wax—but not often. Some of the most eminent in the profession have nearly uniform success with wax, and accordingly have no motive or hardly a desire to change. Still it is well to experiment, since this is the only field and path of improvement. But tried and known materials; those which have the preponderant merits, it is both policy and duty to lay under special contribution. Weighing all substances on true and impartial scales, we think *beeswax* will carry the day by a triumphant majority. For all this the experience of others may bring them to different conclusions. If there *are* substances preferable to wax, we shall certainly be rejoiced to know and practice them.

The Rubber.

The object of separating teeth by the use of rubber is, to save their substance from the file. This is sometimes a good plan, and sometimes a very poor one. Much oftener the latter than the former. For a general practice we consider it as reprehensible—judging from experience,

observation, and the embodied opinions of the profession. Its action is never unaccompanied by inflammation, while in a majority of cases it is of considerable extent and intensity. Not unfrequently is its introduction followed by the most intense suffering, entailing a future tenderness and susceptibility of the most disagreeable nature.

The use of the rubber is admissible only in the fewest instances—the rare exceptional cases. It is evident to the correct observer that when the teeth are thrown apart by this procedure that an undue pressure is exercised on the inverting membranes of the teeth, and those of the adjoining alveoli. By an immutable law of nature the parts thus pressed are first followed by inflammation which in turn is as surely succeeded by loss of substance. Loss of substance cannot take place without active disease, and local disease established in any part of the system becomes very soon a general malady. *This is very often the fact and course of application of the rubber.* Once inserted, the teeth wedged apart, inflammation supervenes, absorption of the parts follow, active disease is adduced, and the teeth are ever after the seat of almost interrupted pain and disease. This is so frequently the case as to almost characterize the application of the rubber. As a general rule nothing can be further from a thoroughly scientific practice.

These opinions may savor of the radical, but we respectfully submit whether they are not founded in truth. We submit whether teeth after having been subjected to a violent removal from their normal position, have not a very reasonable *probability* of becoming the seat and nucleus of disease. It must be recollected all the while that this operation, for the most part, is upon patients whose maxillas have reached full growth, and are accordingly *fixed* for life. They have then ceased to possess the pliancy of early age, and consequently are not to be essentially altered with impunity. It is matter of commonplace observation that irregularities of the teeth only promise successful treatment when taken at youthful periods, and when the maxilla is vital with plasticity. Operations, with this object in view, at a later period of life, *may*, in some instances, boast a partial success, but it will *only* be partial. The utmost care, the nicest manipulations, the deepest solicitude will usually end in disappointment to patient and operator.

So far as we are able to learn, the rubber is but slightly in the good graces of the better portion of the profession. The file is the reliable method by which to reach and remedy disease. This method has none of the objections of the rubber, while it possesses all the benefits claimed for it. Rarely, too, can the rubber be employed without previous

opening with the file. It is but a few more passages of this instrument that puts the tooth in operative condition, and that, too, free from all present and future pain or inflammation. Once *thoroughly* and *properly* separated by the file and it is done forever. Not so with the rubber. Repeated necessities may occur for its use, thus constantly subjecting it to repeated and fatal disease.

PROCEEDINGS OF THE SOCIETY OF DENTAL SURGEONS OF THE STATE OF NEW YORK.

At the Annual meeting of this Society, held at its rooms No. 607 Broadway, on Tuesday Sept. 10th,—the Society was called to order by the President, Dr. John Lovejoy, at 10 o'clock, A. M.

The minutes of the previous meeting being read, and approved—

The Opening Address was delivered by Dr. E. Baker.

After congratulating the members on the success which had attended their efforts in forming and sustaining their Society thus far, and cautioning them against spending too much time in discussing “executive business” to the neglect of professional or practical matters, Dr. Baker chose for the subject of his address the relative importance of the mechanical and surgical branches of dental practice. He bore ample testimony to the great improvements which have been made in the mechanical department during the few past years, which have entirely changed the style and character of the work, while he regretted that so little had been done in the surgical department. In connection with this branch of our profession he gave his testimony most unqualifiedly in favor of preserving in the mouth those teeth in which decay has involved the pulp and stated that with proper treatment they might be kept in a healthy condition for many years. Dr. Baker was one of the first to recommend the extraction of the soft parts within the teeth, when exposed by decay, and filling the fangs to their extremity, and he stated that his practice in cases of this kind had been eminently successful and would be in the hands of every dentist if practiced with care and skill. For those teeth which are situated in the back part of the mouth, especially if tender and predisposed to inflammation he recommended the use of good amalgam in preference to gold, but in those which are apparently healthy he uses gold, when the teeth are not too much decayed to insure a good filling. Through the whole address Dr. Baker was listened to with attention, and the applause which followed showed how highly

the Society appreciates him, as an individual member, the noble sentiments which he expressed, and the instruction imparted by his address.

On motion of C. C. Allen, the thanks of the Society were voted to Dr. Baker for his interesting and instructive address.

The following reports from the Officers and Standing Committees were then made, accepted, and ordered to be placed on file.

Report of the Recording Secretary.

To the Society of Dental Surgeons of the State of New York.

The Recording Secretary respectfully reports that he has, to the best of his ability, kept full and correct minutes of the proceedings of this Society since the time of his election, and copied them, after being corrected and accepted by the Society, into the book containing the records of its doings since the time of its organization. Which is now ready to be transmitted to his successor.

He has also placed on record, in accordance with a resolution of the Society, a complete list of the books presented to form the Society's Library, and the contributions in cash for the same purpose.

During the present year there have been nine applications for membership to this Society, viz:—W. W. Cross, H. P. Fisher, A. Cabaret, B. F. Maguire, K. Spencer, J. H. Hinton, E. Lozier, L. W. Sutton and J. Fowler. Of these, five have been accepted and voted members, while two are now before the Society, one has been rejected on constitutional grounds, and one withdrawn, his application having been made through a mistake.

The whole number of names appended to the Constitution, (when the five above have all signed) will be *thirty-eight*. Of this number twenty-five have paid their annual dues for the present year, making seventy-five dollars; three members, under the provision contained in the fifth article of the By-Laws, have paid each one years dues for students, making thirty dollars, and three of the newly elected members have paid their initiation fee, five dollars each, making the sum total one hundred and twenty dollars, which sum has been paid into the hands of the Treasurer and his receipt taken therefor.*

All of which is duly submitted.

CHAS. C. ALLEN,
Recording Secretary.

* During the session of the Society, three of the newly elected members paid their initiation and seven members their yearly dues, swelling the amount of receipts for the past year to *One Hundred and Fifty-Six Dollars*.
C. C. A.

The Report of the Treasurer

Showed the following state of the finances of the Society :

Amount remaining in the Treasury at the close of the last year, Sept. 11, 1849	\$377 78
Receipts during the present year	120 00
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Making the sum of	\$497 78
Expenses incurred by the Society during the present year	135 00
	<hr/>
Remaining in the Treasury	\$362 78
(To this the money received during the session of the Society for dues of the past year—	36 00
should be added, which makes the sum at present in the Treasury)	<hr/>
	\$398 78

Report of the Corresponding Secretary.

During the past year no letters have been addressed to me in my official capacity. I have, however, received letters from several dentists which tend to an inquiry with reference to the pre-requisites of candidates for membership, and also the qualifications necessary in order to receive the Society's Diploma. I had delayed answering many of these letters, until we issued the new and corrected edition of the Constitution and By Laws and during the past week I have forwarded to each correspondent a copy, which will furnish all the information necessary in a concise and regular form. Application has also been made, more particularly by the junior members of the profession, in reference to granting of diplomas, and in several instances, to those who were not members of this Society. Information has reached us that in some foreign countries, a dentist is not allowed to practice unless he exhibit to the medical society, either a dental or medical diploma, and it has often proved a source of much annoyance to the qualified dentist, attempting to practice where the laws were thus specific on the subject. We are all of us aware that a medical board knows nothing of the theory and practice of the dental art, and we are also aware that some of our best qualified dentists do not possess a medical education. To remedy some of these disadvantages, at least so far as we are concerned, I think it would be proper to hold out inducements to the members of the dental profession, and, more particularly to dental students, to qualify themselves in every department of the dental science, and let it be understood, that those only shall receive this Society's diploma who possess a regular and thorough dental education. The facilities for obtaining diplomas are not great enough, for I believe there is not an institution in this, the largest city in the United States, except our own that grants diplomas from a critical examination of the candidate in all that appertains to the theoretical and practical pursuit of our art; and I am prepared to state that much complaint exists at home and abroad on this subject. I could say much more but what I have already said may be out of place; I shall therefore conclude by asserting that I shall always, whether in a private

or official capacity, use all my exertions to elevate and maintain the dignity and respectability of the dental profession.

HARVEY BURDELL, M. D.,
Corresponding Secretary.

Report of Library Committee.

The Library Committee respectfully report that on their election at the last Annual meeting there was remaining in the hands of the Librarian, of the funds contributed towards increasing the Library, Twenty dollars and twenty five cents.

During the present year they have purchased five volumes of the American Journal and Library of Dental Science, and exchanged two of the volumes in the Library for others of a different date, so as to make a complete set of the work. The whole has been bound and placed in the Library.

They would also acknowledge the receipt, from Dr. Chapin A. Harris, of a copy of the fourth edition of his Principles and Practice of Dental Surgery which he has presented to the Society.

The whole number of books contained in the Library, not including the pamphlets, is seventy-five volumes, all of which are bound and ready for the use of members and their students.

C. C. ALLEN,
F. P. CHASE, Librarian.
B. LORD.

The Report of the Executive Committee was upon the ordinary executive business of the Society, among which we find nothing of particular interest that is not contained in other reports.

Reports from Committees appointed for specific objects being next in order F. H. Clark reported that the Amalgam Committee were not prepared to make a full report, and recommended that the subject be referred to the Society for a practical discussion at some future meeting.

The Committee on unprofessional conduct reported that during the past year no case of unprofessional conduct, in any member of this Society, had come within their knowledge.

Applications for membership being next in order the Secretary presented that of Jas. Fowler, which was, on motion, referred to the Executive Committee.

The following resolution, introduced by C. C. Allen, was adopted :

Resolved, That the annual dues of each member elected since the last Annual meeting and those who may be elected in future, shall, in all cases be paid in advance and computed from the date of his election.

On motion of L. Covell. it was resolved that all applications for membership to this Society shall be accompanied by the initiation fee and first year's annual dues.

The Executive Committee reported in favor of James Fowler, and he was unanimously elected a member. Adjourned to 3 o'clock P. M.

Afternoon Session.

L. Covell exhibited specimens of fillings made of sponge gold prepared by Mr. S. A. Main of New York city, and on motion of Covell a committee was appointed to examine these specimens and the process by which they are made and report to the Society. Messrs. Clark, Covell and Blaisdell were appointed by the Society.

Mr. J. D. Chevalier also exhibited a beautiful portable dental lathe, which was much admired.

The committee on Dental Clinics reported progress, and asked time to prepare a written report, which was granted.

The thanks of the Society were returned to Dr. Chapin A. Harris for the present of a copy of his Principles and Practice of Dental Surgery.

The application for membership of S. A. Main was presented by the Secretary, and he, having been in practice before the time of the formation of this Society, was, without reference, unanimously elected a member.

The Society then appointed H. D. Hall and H. Burdell to deliver addresses at its next Annual meeting.

G. E. Hawes declined delivering an essay at the next *regular* meeting, and moved in its place a practical discussion of the question whether or not pure tin is a suitable substance for the bases of artificial teeth, which was accepted.

On motion the Society then proceeded to elect its officers for the ensuing year, which resulted in the choice of the following :

President, F. H. CLARK ; Vice Presidents, B. LORD and GEO. CLAY ; Recording Secretary, H. BURDELL ; Corresponding Secretary, L. COVELL ; Treasurer, C. C. ALLEN ; Librarian, F. P. CHASE ; Executive Committee, A. V. CARMAN, J. G. BARBOUR, W. ROWELL, and J. H. BLAISDELL ; Examining Committee, C. C. ALLEN, B. LORD and L. COVELL.

The Society then adjourned, and the members proceeded to Odd Fellows' Hall, where a supper had been prepared for them in the best style of the Messrs. Perkins.

PRACTICAL DISCUSSION ON SEPARATING TEETH PREPARATORY TO PLUGGING.

At the Annual meeting of the American Society of Dental Surgeons, held in August, 1848, the subject of filling teeth, which had been set

apart for a practical discussion, was taken up and the different members present gave their views and modes of practice. Although the remarks of the members were taken down by a phonographic reporter, from some unexplained cause, none of them have been published until the printing of the last number of the American Journal. The remarks as reported in the Journal occupy too much space to be republished entire in the Recorder; we shall, however, give our readers such portions of them as are of most practical importance referring such as wish to see the full report to the American Journal.

"The conversation was opened by *Dr. Amos Westcott*, who suggested that first in order of the discussion they should take up that part relating to *filling and otherwise separating* the teeth for filling. The suggestion meeting the approbation of the meeting, he proceeded to state his method of practice in this particular. He said (speaking particularly of front teeth) that he used the file pretty freely, and did not now think of but one exception to the use of it, and that was where the teeth approximate so as to come quite together at their points, and not at the gum. In such cases it was his practice to use wedges.

"*Dr. C. A. Harris* said that he had taken some pains to inform himself with regard to a practice which had obtained among many eminent practitioners, that of separating the teeth by means of wedges of wood, or the interposition of some other substance. Previously to the completion of the growth of the body it may be done in most cases with impunity. The operation may often be performed with safety after the age of fifteen or twenty, or even twenty-five or thirty, but as a general rule, it should not be attempted earlier than the fifteenth or later than the twenty-fifth or thirtieth year. When performed earlier or later, it is apt to produce inflammation in the alveolo dental periosteal membrane and gums, which, ever after, renders them more liable to disease. A gentleman of the profession some six years ago, called on me to obtain my opinion with regard to separating the teeth of a lady of a strumous habit of body, twenty-eight years of age, for the purpose of obtaining sufficient room to insert fillings in their approximal surfaces. I suggested that I thought he would be running considerable risk by doing so. He was induced, however, to separate the incisors, cuspidati and bicuspidis; in consequence of which, a diseased action was set up, which, in four years, resulted in the partial destruction of the alveolar process of the central and lateral incisors, and will, in all probability, occasion the loss of these teeth. I believe the judicious use of the file to be one of the most valuable operations in dental surgery, and, in a large majority of the cases,

it has been my uniform practice where the patient exceeds twenty-one years of age, to file the approximal surfaces of the teeth preparatory to filling them. Much judgment, however, with regard to the difference of susceptibility of teeth is necessary, and when the proper precautions are used, I do not believe as much danger is to be apprehended as some suppose. Even in young persons, where I cannot separate the teeth with wedges, or gum elastic, I have sometimes felt myself called upon to use the file in order to secure a sound solid margin or wall around the orifice of the cavity of the tooth. Also, in cases where the decay has proceeded so far as to break away the enamel from the labio, or palato—approximal angles of the teeth, I believe filing to be the better method of separation.

“The symptoms showing that injury has been done are slight elongation of the teeth, inflammation and swelling of the margins and points of the gums which surround them, and ultimately a gradual loosening of the teeth, resulting from destruction of the sockets, depending altogether upon the patient's susceptibility to morbid impression. It is particularly necessary for the dental practitioner to be able to discriminate between these susceptibilities in different individuals. To illustrate my meaning, a scratch upon the hand, will produce in some but a trifling inconvenience, but in others, it may give rise to extensive inflammation, ulceration and even gangrene. It is important, therefore, that every dentist who is in the habit of separating teeth with wedges, should be well acquainted with the indications of different constitutional susceptibilities.”

Dr. W. H. Dwinelle was of opinion that injury might be done by this operation at one age as well as at another. It had happened in his own practice, in a girl of scrofulous habit, at the age of thirteen, whose teeth he had regulated. He did not think that age had so much to do with it, but regarded it as an experiment that would occasionally fail as well as other operations. He endorsed Dr. Harris' remarks upon filing and considered it of great importance that the filed surfaces should be well polished so as to prevent foreign matter from collecting upon, and adhering to them.

“*Dr. E. J. Dunning.* I frequently use wedges for the purpose of separating teeth, more especially front teeth, but, I agree with Dr. Westcott, in preferring a thorough use of the file in treating caries upon the lateral approximating surfaces of bicuspid and molars. In treating these cases, I use the file very freely, making wide and permanent separations so shaped, if possible, that they will be cleansed by the constant action of the tongue, cheeks, saliva, &c.

“In the treatment of the front teeth, however, the dentist must endeavor to secure, not only the health of the organs, but their beauty; while he remedies the defects caused by disease, he should never forget the importance of these organs to the expression and comeliness of the countenance, and while he is stern and unflinching in his adherence to correct principles of practice, he should not unnecessarily compromise symmetry of form.

“There is one circumstance which has an important bearing on this subject of separating teeth which has not yet been mentioned. I refer to the habits of cleanliness of which we may observe the indications in the mouths of our patients. There are some cases in which thorough separations are imperatively demanded, in order to secure stoppings occurring in approximal surfaces or the parts immediately surrounding them from the action of decomposing agents, while in other cases, such precautions are unnecessary, these deposits being removed by the patient once, twice or thrice, in each day, as the case may require.

“Delicacy of constitution—impaired health, acrid secretions from whatever cause or their opposites must enter into the account and assist the dental practitioner in determining the treatment.

“*Dr. Westcott* coincided with *Dr. Dunning's* remarks, that unless the dentist is governed by the circumstances of the patient, he will make but a poor operator. This saying, that lobelia is good for consumption, and steaming for a fever, may do for quack doctors, but not for us. We do not practice in that way. Let us take a particular case; for example, that of a child, whose teeth are closely crowded, but not uneven. In such a case where I can depend upon the good care of the teeth, my plan particularly for the last two years has been, first to separate the teeth by filing. When the cavities are of large size, I so separate the teeth as that they will never get together again. When the points only of the teeth touch, I have found the filing of the teeth to be bad practice, and if I must get space, I do it by wedges. In the case I have supposed, where the teeth are crowded, I first separate with the file about the thickness of a common visiting card; but do not carry the separation farther up than the apex of the gum. I then use wedges gradually so as to get sufficient room. Then I go through another process of filing in such a manner as to make the edge on the under side, shorter than the outside. This method of filing which can be easily accomplished after the teeth are separated as above described, fulfils two important indications, viz :

“1st. It perfectly hides from *front* view, the filings after they are inserted, although they may be plainly and distinctly seen from behind, when the mouth is open.

"2d. The spaces thus left between the teeth, are such as may be with the least effort kept clean. If the proper care be taken in giving the right shape, and in leaving every point perfectly polished, little effort will be required to keep them free from food or other foreign matter. The action of the tongue and the fluids of the mouth will be generally sufficient.

"We cannot work as easily upon adults, and unless we can get sufficient room, my own skill is not sufficient to perform a good operation more than half the time. I never operate but upon two cavities at a time; after completing which, I let them fall back to their natural position, and begin with two more. If I begin upon the lateral cavities, I next take the same on the other side of the mouth, so as to let the irritation subside before commencing another operation about the same spot. If the cavities are small, and the patient one whom I can operate on again soon, I defer the operation till the cavities are more fully developed. Of this, I may speak more fully hereafter, if time affords us an opportunity to discuss the subject of *filling*; with regard to the use of wedges, I accord with DR. HARRIS, that there is a liability to chronic inflammation which may sometimes be lasting. Where we find the gum already absorbed with an evident predisposition to absorption with yellowish teeth, if the patient is more than twenty years of age, I conceive it hazardous to wedge, and if cavities are on the lateral surfaces I should endeavor to get at them in some other way than wedging. If the patient could and would come often enough, so as to prevent the possibility of losing them from neglect, I should certainly leave the cavity until it was justifiable to file. As regards the matter of filing as I have already observed, I make the under portion of the teeth the narrowest. The front teeth should not be disfigured, but kept as near their normal shape as possible. In cases where the irregularity of the teeth is considerable, we are not obliged to file at all, the cavities being sufficiently exposed.

"Were the manner of filing the special subject of discussion, I would make some suggestions upon the mode I have adopted in particular cases—here simply observing that by judicious management in performing this operation while the primary object may be to obtain space to enable us to fill the teeth, very much may be done to correct slight or even considerable irregularity of the incisors.

"The general idea which I would bring forward, is this—if, for instance, the frontal incisors are irregular, the right over-lapping the left unless the character of the decay contra-indicates it, I file mainly from

the incisor. The object will be readily understood when we consider, that the edge left at any point of filing, is more prominent as we advance towards the centre of the tooth, and is hence in this way brought more nearly to correspond with the over-lapping tooth, whose contiguous edge was raised at the beginning above the tooth filed.

"I have often succeeded in entirely overcoming slight irregularities in this way."

DR. ROBINSON'S ADDRESS.

We intended before this to have given our readers a more extended notice of the above address, written by James Robinson, D. D. S. London, and read before the Society of the Alumni of Baltimore College of Dental Surgeons, at the close of the last lecture term. Dr. Robinson is a practising dentist in London, and author of a work on the Surgical Mechanical and Medical treatment of the teeth, published in London and was severely reviewed in the *Medico Chirurgical* for October, 1846.

As a literary production we can say but little in praise of Dr. Robinson's address. After prai ing with fulsome adulation "the eminent literary and scientific attainments of the individual who preceeded him in this task,"* he goes on to imitate that individual by "dragging by the head and shoulders" into his address, matters which have no connection whatever with the subject which he proposes to discuss. This is always in bad taste, and the address of Dr. Robinson would have been much better without the stupid anecdotes, which, like a stump orator, he has lugged into it, they neither illustrate nor enforce the subject upon the minds of his hearers or readers.

The subject which this address seriously discusses is the system of dental education, and the professional standing of the different classes of dentists now in practice in England.

Of the writers who have preceded our author in England, he says but little in the way of praise, except some of the earliest ones who were "the historians of the theoretical part, and the pioneers to the accurate knowledge we have now obtained of the Anatomy, physiology, and scientific treatment of the various diseases of these organs." Such are Burdmore, Hunter, and Fox. Subsequently to these writers the works published in England were principally of a theoretical character. At this period there appears to have been an unwillingness on the part

* Alluding to Dr. J. H. Foster, who addressed the society on a former occasion

of practitioners to communicate their methods of practice, and to this fact mainly Dr. Robinson attributes the low standard of dental operations in England, except among the few who had been more fortunate in obtaining the proper instruction. "Students who had become acquainted with the mechanical, and wished to extend their knowledge of the theoretical and practical portions, after the usual routine of study in the hospital, or elsewhere, were left in hopeless ignorance." This is undoubtedly true, and is the principal reason why the operations of dentists in Europe, at the present day, are, taken as a whole, so much inferior to those performed in America.

A similar state of things existed here until the establishment of the American Journal and Library of Dental Surgery, and the American Society. Previous to this period almost every dentist had his secrets, which he was afraid to divulge lest his practice should suffer in consequence. Drs. Randall & Flagg, of Boston, both medically educated men, were, however, honorable exceptions; but the system of selling secrets and improvements was not fairly broken up until Dr. Solyman Brown published in the American Journal, a series of essays on Mechanical Dentistry, describing every minute operation, from taking an impression to polishing an entire double set of teeth. Great credit is due to Dr. Brown for persisting in this laudable effort to disseminate a knowledge of correct practice among his professional brethren, for his example has clearly shown that more honor and profit is gained by the open and free exchange of professional knowledge than by the narrow, illiberal, and jealous course which had before prevailed among dentists. Since that period many of the best and most ingenious practitioners have vied with each other in giving publicity to their inventions and improvements. To this liberal diffusion of practical knowledge we attribute the high standard of American operations at the present time, throughout the world. The influence of the Society and its publications, as will be seen from the following extract, has not been confined to this country.

"It must be confessed that our science was not generally understood or its resources made apparent and available until within the last fifteen years. There were a few, who, by great natural talents and perseverance, excelled either as theorists or mechanists, and who obtained the just reward to which their reputation and ability entitled them. But no defined or correct system of practice had been drawn, no curriculum of study had been prescribed either in dental operations, or in mechanics. Each practitioner plugged teeth, took his models, or manufactured his sets after his own fashion, conducting the whole of his proceedings with

the most profound mystery and secrecy. Each man regarded his neighbor as a professional rival, the great aim being to keep his mode of practice to himself, and not unfrequently the meanest and most knavish tricks were resorted to, to revenge the success of a rival. Instances were not unfrequent in which the enterprising or curious practitioner who sought the privilege of examining the arrangements, details or *modus operandi* of the workshop or surgery, has been subjected to abuse and rough usage—the ordinary courtesies of professional life being entirely abrogated in dental practice.

“Since the subject of Dental Surgery has been thrown open, and the portals of the science widened for the admission of all who seek information, a more liberal spirit has diffused itself among the more educated and respectable practitioners. A greater ambition to pursue investigations upon known and intelligible principles, and a greater readiness to communicate the results of their study and experience exist. To this improved state of things, there are a few unworthy exceptions among men, who although professing education and station, demean themselves by resorting to low cunning and unprofessional practices, and do not hesitate to claim for themselves all improvements and discoveries in every department of the dental art. It was a frequent practice some years since, after the formation of the American Society, and the issue of its publications, for tricksters to fasten upon some original matter or a point of dental practice, culled from the Journal of the Association, and forwarding it to some of the medical publications of this country, foist it upon the world as their own. The American Journal having at that time but a limited circulation in England, and being little known among the profession, the plagiarist enjoyed for a time the fruit of his dishonesty until the trick was discovered—when the lion’s skin fell from his shoulders, and his long ears and his uncouth braying revealed his inordinate vanity and his asinine stupidity.”

To the intelligent and skillful class of dental surgeons in England, Dr. Robinson does full credit, but these are few in comparison with those who are still in ignorance of the proper methods of operating and who still practice all the abominable knavery and empiricism which characterized it in its darkest days. Dr. Robinson attributes this state of things to the want of a concert of action among the respectable and educated portion of the profession and a regular and systematic course of education. He says—

“Every other department of medicine and surgery, nay every profession with any claim to public consideration, has its tribunal, before which the qualifications and respectability of all seeking admission, are tested and scrutinized—the dental art remains as yet the sole and humiliating exception; the leading men are content with the reputation and the position they have acquired, under the pretext that their numbers are too few to be able to affect much good, but unless that few combine for the

benefit of the profession at large, it can never be effectually rescued from the cloud of quackery and imposition which have hitherto obscured it, and from which it is the duty of the leading men to free it. Instead of using their legitimate influence, and raising their voices to purge it of pretenders, they by their culpable silence give an indirect sanction and covertly uphold the practices that have lowered it in public estimation."

The best class of dentists in England require an apprenticeship of five years from all students taken into their office. The first three are spent in acquiring a knowledge of the mechanical department. After this the student attends the practice of a public institution, and hears the lectures which are given upon medicine and surgery, and practices for a time in the hospitals, after which he is introduced into the private surgery of his preceptor, where he completes his course under his immediate instruction. Such a course of instruction can hardly fail to make scientific and skillful dentists. But these, according to Dr. Robinson, are but a small proportion when compared with the great mass who are "born in a day"

"All saddled, all bridled, all fit for a fight."

Many of these are "disreputable specimens of gentry who have tried their hands at every description of trade not likely to be serviceable to a dentist." Numbers are medical students who, from want of ability, or application, are not likely to be successful in obtaining their diploma. In fact they have, according to D. Robinson, every species of charlatanism which is to be found in America, and we are inclined to think that the following class, which are the last and the lowest, have not yet been found among us, notwithstanding we had supposed that there were some here who had reached the lowest depths of degradation.

"Another class who by courtesy are in England called "dental practitioners," and who are as numerous as they are ingenious, brings us to the lowest grade, in which the absolute dearth of all professional knowledge is poorly compensated for by a gentlemanly garb, with an extra allowance of jewelry and ornaments. Setting up in handsome reception rooms, with a footman to attend and advertise, "the dodge" enables two humbugs to drive a considerable trade, the servant of to-day being the operator of to-morrow, and *vice versa*, like Archer and Aimwell in the *Beaux Stratagem*, "I master at Lichfield and you master at Coventry." When the duties of the day are over, the worthy partners in the firm retire below, the rooms being only hired by the week during business hours, with the understanding that the kitchen is to be their sphere for the remainder of the day. To call upon one of these professors, either Jew or Gentile, after reception hours, is one of the curiosities of professional life that few have fathomed. The practitioner is found transformed into a species of light porter, or it may be that he has

an indirect interest in the returns of some milk-walk, a second-hand clothes shop, or endeavors to eke out the business of the day by persuading you to strike a bargain in teeth, or exhibit some prime "Havanas," steel pens, a horse, a Rembrandt or a Murillo. Nothing comes amiss to these gentry, who, if they have no other merit, must be set down, at least, as very industrious and very persevering."

In conclusion Dr. Robinson admits that dental science has not advanced so generally in England as in the United States, and he dispairs of seeing it stand where it should until there is more liberal feeling manifested among dentists, until professional jealousy is broken down, and until a College of Dental Surgery is established and a board of examiners appointed to test the qualifications of all who aspire to practice as dentists.

DENTAL SURGERY AT THE WEST.

We have received a letter from one of our subscribers which although not intended for publication, so truly shows the lamentably low condition of our profession in the far west, that we cannot refrain from publishing the following extract. There is, no doubt, a vast field for dental practitioners at the west, where good dentists might do more good and make more money than among the crowd of dentists at the east. We would here express our gratitude to the writer for his exertions for the Dental Recorder, and shall rejoice to hear of his obtaining subscribers to any of the other dental periodicals. If good is done through the agency of any of them it is all we ask, it matters not whether it be by the Recorder, the Journal or any other periodical. We will state for the benefit of our subscriber that the *Intelligencer* was discontinued some time since.—*Ed. Recorder.*

"I am an agent for the American Journal and Library of Dental Science, and am acting in that capacity for the Dental Register of the West, and have taken the liberty, unasked, to proffer your claims to the patronage of my professional brethren in the far west. I hope to be able yet to do something more for you and all the rest of the publishers of periodical dental literature.

"Perhaps it may not be amiss to inform you that among eight "local" and a half-score of itinerant dentists, in upper Missouri, only three of us are subscribers to any of *our* journals!—one has just subscribed for the Register, one has taken the Recorder ever since I have known him—I procured one name to the Register and one to the American Journal and Library, but both have gone to the "gold diggings!" Placed as I am upon the frontier, and remote from association, I feel that professional mental starvation would be my doom without a regular supply of our

periodicals. I have taken the American Journal, the Recorder, and the NewsLetter from their several commencements, with three copies of the Register, (to aid in sustaining a western journal). I have made three attempts to get the Intelligencer but failed each time.

"The standard of dental excellence is deplorably low in the far west, and can only be sufficiently elevated, and its advantages fully known, by locating a good dentist in each country town,' as justly remarked by Dr. Shirley, of Illinois.

"Many of my competitors are operating for fees less by half than I charge. Some are inserting only pivot teeth, one of whom tells me he put in a *pivot tooth where the fang had been extracted!* But of all the *curses* inflicted upon community by dentists (if I may so call them) the operations of the 'traveling' dentist is the greatest, I mean he who goes on from place to place, from town to town, and never returns by the same route, fearing to see his patrons a second time—and of such *we* see not a few in the west—which evil can only be abated by a supply of good, local operators; and for such there is room, and such can always increase patronage, while the quacks decrease it."

FORCEPS FOR BENDING PLATES.

Colchester, August 26th, 1850.

DR. C. C. ALLEN,

Dear Sir:—I wish just to mention to you the way I bend plates before swedging—perhaps it may be of benefit to some of the profession. Having a pair of broken forceps and thinking they might be of some use, I prepared them by opening the blades wide and dipping each separately (after first filing notches in them) into melted tin, just hot enough to keep liquid, and immediately taking them out, cooling, and then dipping again, till a thick pear-shaped coating was formed on each.

After being dipped sufficiently, the blades, of course, must be shaped with the file to suit the operator. With these my plates are never scratched or injured. By having the blades different sizes you can make an abrupt bend or a more gradual one, and with a little dexterity and practice a well annealed plate can be so bent as to be quickly and easily swedged. You can make such use of these suggestions as you may deem expedient. If, in your opinion, there are those in use better calculated for this purpose*, set this aside, unless it be for the benefit of

* The dental Instrument makers manufacture forceps for this very purpose, which answer in almost every case—but we always like to see ingenious resources and experiments like the one described by Dr. Swift, they show a fertile mind and an eye to economy, which is highly laudable. The above simple method may be the means of furnishing many dentists with bending forceps which would not otherwise possess them.—*Ed. Recorder.*

those who study economy as well as convenience—for half an hour's time is sufficient to fit a pair for use. Any further information you may desire I shall be most happy to communicate.

Respectfully Yours,

S. E. SWIFT, M. D.

TIN BASES FOR ARTIFICIAL TEETH.

In our article in the last number upon the new method of mounting artificial teeth, and soldering with tin, we omitted to mention in connection with the improvement the name of Mr. C. O. Crosby, of New Haven.

In 1847, when Mr. Gilbert the patentee of the central cavity plate, called upon us, he was wearing a lower set of teeth manufactured by Mr. Crosby, and mounted on a base composed entirely of pure tin, on which a thick coating of gold had been deposited by the galvanic process. His method of making it we believe was to cast, in the ordinary way, in moulding sand, the entire base, from a pattern made either of wax or plaster, formed upon the plaster model. When this was done he fitted his teeth to the tin base in the ordinary way. Thin gold, or more commonly silver backs, which are quite as good, were then put to them, the platina wires riveted, and soldered as usual, and the teeth then soldered to the base with tin, using the soldering iron or blow pipe. When this was done the front was finished by passing around the edges of the teeth a small wire of fusible metal, the plate, or tin base and teeth being heated hot enough to melt the fusible metal. This filled all the cracks, if any existed, under the front or enameled face of the teeth making all the joints perfectly tight.

This made a very beautiful piece of work when gilded, and as strong as can be made in the ordinary way with gold plate and backs; but the process of Mr. Hawes, described in our last, has the advantage of being more simple and at the same time stronger and quite as handsome.

Since our last number was issued, Mr. George Smillie has shown us an entire upper set of block teeth on gold plate and soldered with tin. After jointing the blocks, and fitting them well to the plate, Mr. Smillie puts upon them one continuous piece of thin plate for a back, and either rivets, or what is better, bends the platina wires over their back—the front of the blocks is then coated with plaster, to keep them firm in their places upon the plate, and the whole soldered to the plate with the tinman's soldering iron. The plaster is then removed and the front

upper edge of the blocks is covered, which affords the same protection as a gold band. This done the whole piece is to be finely finished and well coated with pure gold. The advantage of this plan is that it avoids the high degree of heat, and consequent danger of cracking blocks, which attends the ordinary method of using gold solder. It also saves the expense of thick gold backs and gold solder.

Of course it will require time to establish the superiority of either one of the above plans over the common operation of mounting on gold plates, &c.; but with the man who is determined to try all things and hold fast to that which is best, they are all worth the trouble of testing.

An error occurred in the article on this subject in our last number, where the operator was directed to wash the parts to be soldered to, with muriate of tin, it should have been muriate of *zinc*.

THE SCIENTIFIC AMERICAN.

This journal is published weekly, at 128 Fulton street, by Munn & Co., for two dollars per annum, and is devoted to science, mechanical and other improvements.

Every dentist is supposed to be a mechanic, and to perform all his operations upon strictly mechanical principle, and he should be so if he would be successful. The dentist who practices in all departments will find many mechanical principles and fixtures illustrated in this work, which apply directly to his own art, for these principles are the same whether applied to the construction of artificial teeth, dental instruments, or any other kind of mechanics, there are analogies existing throughout the whole which will well repay for studying them.

THE DENTAL PEARL.

After an intermission of a year, or thereabouts, the Dental Pearl is again before us, edited and published for gratuitous circulation by C. A. Peck, **Dentist**. It contains two good articles, the contents of which every person possessing teeth should understand, and which every qualified dentist is commissioned to teach to his patients, one upon popular prejudices regarding the teeth, and the other the influence of the teeth upon health, two fruitful subjects which all dentists should be eloquent upon.

DRILL STOCK.

INVENTED BY L. D. CHEVALIER,

JANUARY 30th, 1850, (NOT PATENTED).

FIG. 1

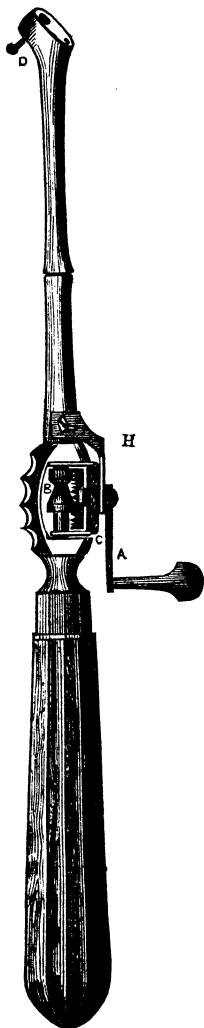
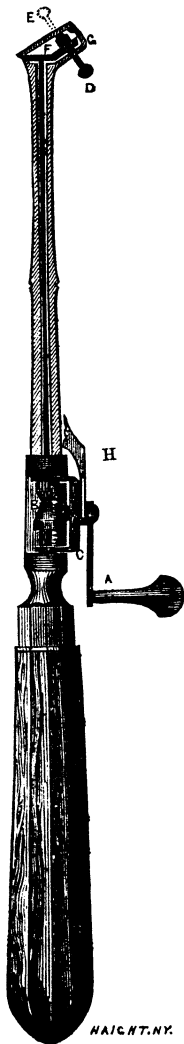


FIG. 2



The above cuts will give a pretty correct idea of the Instrument. The spur wheel and pinion, with their frames, are so small as to preclude the possibility of lettering each piece, and therefore of giving a detailed description of their operation. Fig. 1, represents the Instrument whole, Fig. 2, shows the tube or cylinder, divided longitudinally, laying bare the shaft, at the lower end of which is a pinion, of one third the diameter of the wheel by which it is turned. At the upper extremity of the shaft is a bevel wheel, coupling into another of the same size, the shaft of which makes the socket for holding the burr or drill. The burr, D, can be put into the socket from either side, as represented by the dotted lines, E. This last part which we have described, is not new, in 1835 Mr. Chevalier made one dozen Drill Stocks with the two bevil wheels, as seen in the cut, but with the shaft running entirely through the handle, some were turned by a crank, and others by a small fluted handle attached to the lower end of the shaft which protuded through the large handle. Dr. Levett, of this city, has had one of the latter in use about thirteen years.

The tube is cut away, except the notched part at B, to allow it to be turned three quarters round so that the burr may be applied to either side of a tooth while the crank, A, remains in the same position to be turned by the right hand. This is accomplished by the button, c, through which the shaft of the crown wheel runs, turning on the shaft within the tube or cylinder. A guard is attached to this moveable part having a

HAIGHT, N.Y.

set screw at H, which confines the moveable parts in any desired position. This guard we think is no improvement. The instrument would be better without it, so as to allow the burr to be turned towards different parts of the cavity.

This is a very ingenious and beautiful instrument, and if any mechanical drill can be made available in practice, for the few cavities that occur in which the straight burr cannot be used, we should think this might.

NEW YORK MEDICAL COLLEGE.

New York is fast becoming the great metropolis of medical science, the third medical college will commence its first course of lectures on the first Monday in November. A new and beautiful college building has just been completed on the site of the old reservoir in thirteenth street, a faculty composed of young, energetic, and talented professors are appointed to teach all the important branches of medical and surgical science, (except dental surgery) and every thing indicates that this school will soon rival if not outstrip its older and well established competitors.

THE DENTAL RECORDER.

The present number commences the fifth volume of the Recorder, and it will continue to be published monthly in its present form. Since the work came into our hands we have aimed to make it as practical as possible and have encouraged our professional friends to communicate practical cases, modes of practice, &c., and a larger space, it is believed, has been occupied in this way than in either of the other dental periodicals published in this country. No efforts will be spared during the coming volume to continue the practical character of the work, while, at the same time, notices and reviews of new works, new inventions and improvements will be given in the fullest and frankest manner, not forgetting, while we criticise the *opinions* and *works* of authors, to avoid as far as possible all personal allusions and acrimonious controversy.

The present number will be forwarded, in accordance with our original plan, to all delinquent subscribers, but it will then be stopped so long as they remain delinquent. We dislike exceedingly to say any thing about "settling up," but without punctuality on the part of all our subscribers the work cannot be sustained.

NEW YORK DENTAL RECORDER.

Devoted to the Theory and Practice of
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

Vol. V.

NOVEMBER, 1850.

No. 2.

PRACTICAL DISCUSSION ON SEPARATING TEETH PREPARATORY TO PLUGGING.

(CONTINUED.)

We resume the discussions on practical dentistry, which took place in the American Society of Dental Surgeons in 1848, just published in the American Journal. In the use of the file probably the experience of every dentist, who has been long in practice, has been similar to that of Dr. Cleveland. We have known but few young dentists who were not timid in the use of this instrument. Although they may have been taught to handle it in the most heroic manner, it seems to be just as natural to them to wish to try filling teeth without separating them so widely as their preceptors have taught them to do, as it is to wish to test again the oft-exploded operation of caping exposed nerves; an operation which every dentist has had the satisfaction of proving the inutility of. The experience, however, of every sagacious dentist with whom we have ever spoken, upon this subject, has been a gradual increase in the use of the file for many years after commencing practice: great skill is required, however, to know how to use it freely and avoid doing injury while, at the same time, the greatest amount of good is secured.

"Dr. J. A. Cleveland, remarked, that in the early part of his practice he was disposed to discard the file. Another dentist, who was then practising in the same community, had been in the habit of using the file freely for several years. I then differed with him, and cautioned him against its too free use. After some few years experience in practising upon the same patients, I discovered that I was in error, in cautioning my elder brother about going too far in the use of the file. Having continued ever since to practice in the same community, and having abundant opportunity to test the effects, I can say, that I have known probably three cases where the free use of the file was successful, to one where a very limited use was so. I can show filings where the bone has been exposed twenty years, and the teeth are sound. A worthy member of this Association, twenty-eight years ago operated upon many patients at the South, among whom, was my brother and one of his neighbors, upon whom I have since attended. I have lately examined their teeth, whose enamel was filed off so long ago, and I found them sound. They are

both, however, attentive to their teeth. I now use the file much more freely than formerly. I have never used wedges or any other means. My method is, first, to introduce a very thin file, then I file away what I deem necessary for filling: I then reduce the edges where they come in contact to very small points by filing slightly from each side above and below, so as to bring the approximal points on as small spaces as possible. I file bicuspid and molars more than front teeth. I concur with *Dr. Westcott*, with regard to filing under; most of my fillings are put on the underside. I have used the file in the manner described for fifteen years.

"*Dr. J. H. Foster.* My treatment of the front teeth differs very much in respect to the mode of separation from that which I pursue with bicuspid and molars. I occasionally use wedges in separating the latter cases, but more frequently make free and wide spaces with a chisselled-shaped instrument, and then with the file complete the operation for making the space between the teeth level and regular, leaving it in form similar to the letter V. I use the file between the front and lateral incisors and the cuspidati, only so far as to secure the separation which they require after the operation of filling is performed, except in those cases where the parieties of the cavities are so thin and weak as to require that more should be removed. So much injury has been done by the indiscriminate and reckless use of the file, for which the poor persecuted instrument has borne the obloquy which should have attached to the hand that used it, and yet it is powerful for good as well as evil, if treated kindly, that I have been more cautious in handling the file than any other instrument. With respect to wedging, I prefer this course of treatment, and as a general rule am governed by it in separating the front teeth. I use India rubber in preference to wood, because I think it less irritating. I have three or four different thicknesses, which I insert successively in all cases in which it is possible. Wait until the inflammation consequent upon the pressure has entirely passed away, before performing the operation of filling; the severe inflammation spoken of has never come under my notice in any case, and must be attributed, I think, to too great a degree of pressure upon the teeth in the commencement of this treatment.

"*Dr. Robert Nelson.* If the patient be young—say under twenty—and the cavity small, I press the teeth apart by means of fine linen or cotton cloth, drawn between them—increasing the folds as circumstances may direct.

"Should the decay have progressed so far as to make it necessary to remove a portion of the tooth, in order to give form and strength to the sides of the cavity, but not sufficient to give the requisite space for filling, I remove some of the soft bone, and fill the cavity and intermediate space with cotton: the cotton, by absorbing the fluids of the mouth, swells and presses the teeth apart with a gentle, though irresistible force.

"I have used various articles for this purpose, but find none to possess the advantages of cotton; it is not only easily applied and retained in the cavity, but it also, while it separates the teeth, presses the gum from the margin of the cavity—an office of the greatest importance.

"I may here add, that although I have been in the habit of pressing teeth apart for the last fifteen years, yet have I never seen the slightest evil consequences resulting therefrom.

"For the back teeth, my *general* practice is to separate them with a chisel, or file; and I feel assured from my own experience in a practice of many years, and from observation on the practice of others, that these instruments may be used with perfect safety by the skillful operator; indeed I have always observed that those who have been most successful in their practice, have used them with the greatest freedom.

"When teeth approximate at the points, the tendency of the wedge is towards the gum, which produces the irritation described by *Dr. Harris*. It is my practice in such cases, to pass a thin file between, which gives room for the wedge, and prevents the crowding towards the gum.

"*Dr. Westcott* thought that the difference in the kind of wedges used arose from one's making a right use of one kind, and seeing a bad use of the other. He had several years used rubber principally, but now prepared fine wood, perhaps if he had adopted the assorted India rubber at first, he might have approved of it better. He liked wood also, because it will retain the teeth in their places. By shaping the plug like an hour glass it can be worn several days till the soreness gets out, which he was unable to do with gum elastic.

"*Dr. Harris* said he had tested the relative merits of both wood and gum elastic, having used them indiscriminately for a number of years. To separate teeth, a certain amount of inflammation is necessarily excited, by the pressure of the organs against the alveolo-dental periosteum, and the greater the pressure the more active, as a matter of course, will be the inflammation. When the pressure is exerted very slowly, the pain will be slight, causing the patient but little inconvenience. But, as I have before stated, a certain amount of inflammation is necessarily produced, and as the alveolo-dental periosteum becomes inflamed, a chemical fluid is poured out, which breaks down the surface of the alveolar wall, against which the tooth is pressed, and it is partly in this way, and partly by the yielding of the alveolus, that the tooth is moved. It is true, the irritation may, and often is, very greatly increased by the pressure of the interposed substance against the point of the gum.

"*Dr. Harris* stated that he had seen teeth which had been filed thirty-five years, that were still sound, yet many teeth, thus filed, may have decayed on account of the greater susceptibility of the organs to the action of the causes that produce the structural alteration. This should always be considered, as well as the patient's habits of cleanliness, with regard to the teeth. Some teeth may be able to resist the action of the usual causes of caries, throughout the whole period of life, if the filed surfaces be kept thoroughly and constantly clean, but teeth of a soft texture will ultimately be decomposed. But as I have elsewhere given my views upon the manner of performing this operation, as well as upon its utility, it is unnecessary for me to say more upon the subject.

"*Dr. J. B. Rich*. In the early part of my practice, I was informed

of *Dr. Parmly's* method of separating the teeth by means of wedges of wood. I availed myself of this method whenever I met with an opportunity to do so. The result was by no means satisfactory. In several cases, so great was the inflammation superinduced, that the teeth lost their vitality, consequently I abandoned the use of wood for that purpose.

"I next heard that *Dr. Brewster* had used India rubber for separating the teeth. My early experiments with this substance produced nearly as much inflammation as my experiments with wood. I continued, however, the experiments, and in two cases succeeded in separating the teeth with scarcely any inflammation. This encouraged me to pursue the experiments, which I did, with the following results: I found that by carefully graduating the sizes of the pieces of rubber used, the teeth might be separated a considerable distance without producing much inflammation. I cut the India rubber to the requisite thickness at the time it is to be applied, which can easily be done with scissors. For some time past, I have prepared the rubber for use, by boiling it in water until it becomes quite soft. When thus softened, it is superior to any substance, with which I am acquainted for this purpose. When the rubber is thus made soft, the force is applied so gently, that there is very little, if any inflammation to be apprehended from its use. It takes, I am free to confess, longer time to separate the teeth by means of boiled rubber, than either by wood or by the rubber unboiled. But as it is of the utmost importance to prevent inflammation of the periosteum during this operation, I less regret the delay. The rubber after boiling, is quite as elastic as it was before; but its mechanical force is considerably diminished. If I separate the teeth for the purpose of filling on the approximating surfaces, and wish them afterwards to resume their original position, I reduce the thickness of the rubber, day by day, until they shall have returned to their original place. It is quite as desirable that the teeth should come together gradually as it was desirable that they should be separated gradually. This has been my practice, and the results have fully answered my expectation. I should be happy, however, to be instructed by the suggestions of others upon this subject,—as to me, it has ever been an exceedingly interesting one.

"*Dr. Foster* inquired of *Dr. Rich*, if he could always manage to get the soft rubber between the teeth?

Dr. Rich replied, that the soft rubber would be introduced between the teeth much more easily than the hard. When it was found difficult to introduce the rubber, on account of the teeth being close together, it was his (*Dr. R's*) practice to pass floss silk waxed between them and to allow it to remain between a few minutes. After which the rubber might be introduced without difficulty. As it regards the operation of filing it was *Dr. R's* practice to file or cut away the surfaces until the edges of the cavities were firm enough to bear the pressure of filling. He would not leave a cavity to grow larger before it was filled, nor would he hesitate to file away the surface on account of a cavity being small. If decay exist in any part of a tooth, and that decay cannot be cut or filed away without disfiguring the tooth, it ought to be filled at once. The smaller the cavity, the greater would be the service rendered to th

tooth by filling. If the decay be left in order that the cavity may become larger, the caries may extend in the direction of the cavity of the nerve, instead of spreading over a superficial surface.

“*Dr. Westcott* said that he had not yet met with a case where he could not determine whether the operation of filing should be performed at once, or left for the cavity to increase in size. If there was any doubt about it, it was better to operate early than to leave it till the nerve was exposed. With regard to the material used for separating the teeth, *Dr. W.* had seen an instance in which white wax had been used by a lady to supply the place of a lost tooth, and it had, by continual renewal, gradually increased the space between the teeth so as to leave ample room for another tooth: she had worn the wax for eight years, and the gum was perfectly healthy.

“*Dr. Dwinelle* thought *Dr. Rich* was rather too particular and nice in the matter of separating teeth, and of reducing them back again. The necessity of gradually reducing them back, was not very apparent to him, because they would naturally return to their places gradually.”

Upon the subject of filing teeth it seems to us that none of the speakers have sufficiently explained and enforced the importance of so effectually separating them that the filed surfaces will never come together again; but perhaps this fact was so well understood by them that it was deemed unnecessary to dwell upon its utility or importance, nevertheless many operators do so use the file, in separating teeth for the purpose of filling their approximal surfaces, that in a few months they are close together again. We have never met with a case treated in this way where caries did not again attack the teeth around the filling, and progress so rapidly that “the last stage of these teeth was worse than the first.” The reason is very apparent, for, before the teeth are decayed or filed, owing to the convexity of their adjoining sides, they touch only at a point, like musket balls in contact, or at most, only on a line, like cylinders lying side by side, and the consequence will be that the slight motion of the teeth in their sockets, caused by mastication, will have a tendency to expel any foreign matter which may have lodged between them; but when these adjoining surfaces have been flattened by passing a file between them and have again come together, then two flat surfaces, especially when left rough, will hold portions of food there until fermentation takes place and an acid is formed which ruins the best gold fillings. We have sometimes found the fillings loose in the cavities, when the teeth were so close together that they could not escape, and so solid and perfect as to show convincing proof that they had been put in in the most skillful manner, even when the reputation of the dentist who put them in was such as to make such proof wholly superfluous and

unnecessary. We have seen so many such cases that our practice is uniformly to separate, with the file, all teeth which have closed after having been filed and filled. It is the only effectual way to prevent the necessity of re-filling.—*Ed. Recorder*

ON A CASE OF EXTENSIVE INJURY TO THE JAW, FOLLOWING THE REMOVAL OF AN INCISOR TOOTH BY THE KEYED INSTRUMENT.

Remarks on the Extraction of Deciduous Teeth.

BY THOMAS UNDERWOOD, ESQ.,

Honorary Dentist to the St. George's and St. James's Dispensary.

The following case exemplifies the injury that may be done to the maxillæ by the too forcible extraction of the temporary teeth, particularly where there is a scrofulous tendency in the constitution.

The patient is a young lady, fourteen years of age, the appearance of whose face is very peculiar: the lower jaw is excessively pointed, presenting a sharp, wedge-like appearance, instead of the natural rounded form; and the following peculiarities are to be observed in the interior of the mouth: the four permanent incisors and left canine, in the lower jaw, are wanting together with their alveoli; the right canine occupies the place of the right central incisor; and the bicuspid, or small molar teeth, branch off on each side. There is a small space of an eighth of an inch between the canine and left bicuspid, but the other teeth are in close contact. The jaw consequently contains nine, instead of fourteen, the usual complement of teeth at this age.

The account which I received from my patient and her friends was, that six years ago one of the temporary incisor teeth was removed by the key—an instrument, the use of which was evidently unnecessary for a temporary tooth, more especially a temporary incisor. After the extraction, an abscess formed under the chin, about half an inch from the symphysis, which ultimately pointed outwards, and continued discharging pus for four years, exfoliated bone being now and then thrown off. Granulations then sprang up, and the wound healed. The result of the injury was, that five of the front teeth, with their alveoli, and a portion of the lower maxilla, an inch and a quarter in length, have disappeared.

A tumor having lately again formed, in much about the same position as the former abscess, the medical man in attendance on the case, though

he believed it to be an enlargement of the sub-maxillary gland, was nevertheless anxious that a dentist should examine the mouth. I was accordingly consulted, but found the teeth all sound, and my opinion coincided with his, that it was an enlargement of the gland, which, owing to the angular state of the jaw, appeared to be protruded into the cavity of the mouth. The tumour has almost disappeared under the compound iodine ointment. The patient is evidently scrofulous, which circumstance will, in a great measure, account for the extensive injury which has occurred; yet the operator was much to blame who used such an instrument as the key, so rarely admissible, even in adult cases, to extract a temporary *incisor* tooth. The result has been a disfigurement, which no art can rectify; but one or two lessons may be gathered from the case—viz., whenever we are called upon to remove deciduous teeth, the constitution of the little patient ought to be considered, and this is especially a matter of primary importance where any degree of force is to be used. Again, though parents, and even many practitioners, are in favor of extracting the temporary teeth, as soon as the permanent ones make their appearance, experience points to the contrary course; and I have invariably seen, in my practice, that the longer the first teeth can be retained in the jaw the better, for irregularity arising from their removal being deferred, can always be rectified; and contraction resulting from too early extraction is beyond our power. Even in cases where children suffer from toothache of the temporary teeth, I have always found a simple fomentation of water, as hot as it can be borne, applied for half an hour to the outside of the cheek, opposite the seat of pain, together with a gentle aperient, sufficient to afford entire relief; and by this means the teeth may be retained until their successors displace them, or at least until they may be removed with very little force.

—*London Lancet.*

HARE-LIP; FISSURED HARD PALATE; ISOLATION OF THE PRE-OR INTER-MAXILLARY BONE.

(UNDER THE CARE OF MR. GAY.)

We were lately present at an operation, performed by Mr. Gay, on a little boy affected with hare-lip, whose case presented much surgical and physiological interest. In the latter point of view, our attention was attracted to the appearance of the mouth of the patient's mother, whose countenance was rendered really repulsive by a double and

gaping hare-lip, with a central lobule. Here the hereditary transmission of the malformation could not be doubted, the more so as the daughter of the same woman was likewise a patient of Mr Gay, for the removal of the hare-lip deformity. The evident hereditary influence, which had here so materially affected the labial and palatine development of these two children, is a fact worthy of record, as the etiology of hare-lip palatine fissures is by no means settled. Some authors have assigned as a cause the effect of the mother's imagination upon her offspring; some, purely mechanical causes; and others, hereditary or primitive alteration of germs, as seems to have happened in the present case.

The mother of Mr Gay's patients is an Irishwoman, with a double-fissured hare-lip, as stated above, of a most unsightly character, and she brought her two children, who were each affected with a similar deformity, to be operated upon. In each case there were originally two fissures, either being about two lines from the centre of the lip. In the eldest child, a girl of seventeen, otherwise pretty, the labial fissure on the right side had closed, but in the mother and the other child, a boy seven years of age, both fissures remained. In all three there was a very wide separation of the maxillary bones; in the girl it was a simple fissure extended from behind forwards, as far as the anterior extremity of the vomer, and then terminated in two other fissures, which individually extended themselves obliquely outwards, separating the lateral maxillary elements from the pre- or inter-maxillary bone. The pre-maxillary bone in the mother contained four, and in the boy, three incisor teeth, and was projected forwards very considerably beyond the portion of maxillary bone to which it corresponded, carrying before it the adjoining portion of lip, and lifting it up so as to expose the teeth. The pre-maxillary bone was in both cases attached to the front of the vomer, and the lower edge of this bone could be seen through the palatal fissure, free from either maxillary bone.

It was obvious that the arrest of development to which this deformity is attributable occurred in the lateral elements of the maxillary bones, and in all probability may be traced to some congenital defect in the supply of blood, seeing that the upper jaw obtains the vital fluid by different sources—that portion containing the incisor teeth from the infra-orbital or long palatine, and the region of the molar and bicuspid from the dental branches of the internal maxillary artery on either side. That the above-described state of things is really depending on arrest of development may be gathered from the appearance of those bones in the

fœtus. Cloquet says—"The body of the superior maxilla is developed by one or two points of ossification; in the latter case there is in fœtus a little distinct osseous piece, which bears some resemblance to the inter-maxillary bone of quadrupeds." Meckel, in several fœtuses of three months found the superior maxilla composed of three pieces, which it is not necessary to describe here, but he adds—"The palatine canal, which is still but a simple hole, appears enormous, and the anterior portion of the palatine process is separated from the posterior, and a real inter-maxillary bone exists—a curious analogy with what is normally observed in almost all the animals inferior to man. . . . It deserves to be remarked, as indicating, even in man, that the portion of upper maxillary bone in which the incisor teeth are situated is separated from the others during the earlier period of life, and then forms a real inter-maxillary bone." From such osteological facts, observed in the young fœtus, it will not appear surprising that anomalies may occur; among others we notice the shortness of the palatine process, which leaves a greater or less interval on the median line, between the maxillary bones, and whence generally results the insulation of the anterior portion which supports the incisores, or of the inter-maxillary bone."

Mr. Gay first turned his attention to the case of the girl: with this patient the deformity was considerably less than was seen upon her brother, for here the development of the opposite maxillary bone had been complete, but from the projection of the pre-maxillary portion beyond the corresponding part of the maxillary bone had not completed its growth. Mr. Gay resorted to the usual manner of obtaining union of the fissure by paring the edges, the transverse pins, and the twisted suture; the cicatrization was very favorable, and the girl's appearance was subsequently such as hardly to indicate any defect in the parts.

The case of the boy was much less simple, for Mr. Gay found it necessary, as a first step of the operation, to detach the alveolar process, containing the incisor teeth, (in fact, the isolated inter-maxillary bone,) from the vomer; this was easily accomplished by means of the bone forceps. After the removal had been completed, an artery, in all probability a branch of the long palatine, bled so freely as to require the application of the actual cautery. One of the fissures of the lip was then closed in the usual manner; pretty rapid union took place, and one week afterwards the fissure on the other side was brought together by the same manipulation as the first. The case progressed very favorably, and the boy's appearance was in a few weeks considerably improved. Mr. Gay uses in such cases two fine needles, the usual twisted

figure-of eight suture, with *thick* silk. It is a pity that the mother, from callousness or neglect, did not seek the rectification of her deformity, for her repulsive countenance, which might have been so much improved by surgical interference, offered a very unpleasant contrast with the altered appearance of her children. Mr. Gay used chloroform when operating upon the boy, and though the narcotic effects did not extend to the latter part of the operation, the patient was saved a good deal of pain at the beginning. There can hardly be any very overwhelming reason for withholding the benefits of chloroform in operations on the mouth; the insensibility may even be kept up for a pretty long period by now and then placing under the patient's nose, as we have seen Dr. Snow do very frequently, a piece of sponge, upon which some chloroform has been poured.—*London Lancet*.

CASE OF OSSEOUS DEPOSIT WITHIN THE NERVOUS PULP OF A MOLAR TOOTH.

BY S. S. HORNER, DENTIST, PHILADELPHIA.

About two months since, I was waited on by a young lady, a member of one of our most respectable families, for the purpose of having the first superior molar tooth (left side) filled. On examination, the tooth presented but a slight decay, yet it was so exceedingly sensitive, as to require a mild application for the purpose of allaying the sensibility before filling it; after which I succeeded in plugging it with gold, to my satisfaction, and, as I had reason to hope, effectually preserved the tooth.

On Monday last, however, I was called to see her, when she complained of constant pain in the tooth, and was also suffering from a bilious attack, for which my eminent friend, Prof. Mitchell, was attending her.

As she was unwilling to submit to leeching, an opium plaster was prescribed, without the desired effect, and on Wednesday last I extracted the tooth, which I found highly inflamed, the nerve entirely dead, and the periosteum of the fangs in a suppurative state. Upon further inspection, its singular appearance induced me to break it, for the purpose of examining the nervous pulp, which had assumed the character of gristly mass, of a blood-red color, surrounded by a sero-sanguinolent liquid, containing in the very centre, and constituting about two-thirds of the whole mass, a semi-transparent bony substance, so hard as to resist the point of a penknife.

After freeing the bone from the surrounding substance, and placing it under the field of a microscope, of moderate power, it presented the appearance of a transparent and irregular pebble, with many projecting points, beautifully rounded off.

Oudet describes bony formations within the tooth from altered secretions of the pulp, in *Dictionnaire de Medecine*, Vol. 1. p. 186; but this is the first case of the kind ever met with in my own practice. I have therefore taken the liberty of sending you a description of it with the request that you will give it a place in your valuable Journal.—*Philad. Med. Examiner.*

Remarks upon the Above.

It is much to be regretted that dentists, as well as physicians, in reporting cases for the instruction of others, do not tell us the whole story, by so doing they would often explain the whole mystery and make plain the circumstances which are left inexplicable. In the above case, Mr. Horner has told us that the tooth "was so exceedingly sensitive as to require a mild application for the purpose of allaying the sensibility before filling it;" but he does not tell us what that "mild application" was, whether it was arsenic, creosote, tannin, or some other material. Arsenic is the article which has been used more than any other, during the past few years, for allaying the sensibility of tender teeth, and we have known several cases where this application, although very mild in its operation to the patient, has nevertheless destroyed the vitality of the pulp of the tooth. Some ten years since we had a molar tooth in the lower jaw which required filling; but when the dentist began to excavate the cavity the operation was found to be so very painful that we directed him to apply a little arsenic for a few hours and see what the effect would be; he did so, and it was suffered to remain in the cavity until the next morning, when, to our great joy, the tenderness was entirely removed and the tooth was filled with gold. In about three weeks, however, a pustule appeared on the outside of the jaw, showing that the nerve had been destroyed by this "mild application."*

Now as to whether Mr. Horner used a "mild application" of arsenic or of some other material we are left entirely in the dark; our object in these remarks, however, is to caution our reader's against using arsenic in cases of this kind without the greatest circumspection and care. We have used it very much diluted with tannin and narcotine, when it allayed the tenderness of the tooth, for the time, without any apparent injury; but our usual practice, in cases where the teeth are too tender to be excavated, is to apply the chloride of zinc. This is a powerful caustic and destroys the vitality of the bone of the tooth on the surface to which it is applied without penetrating so deeply into it as to endan-

* This tooth continued to discharge for about a year with slight soreness, at times, and a disagreeable itching sensation in the gum and about the roots, the ulcer then healed and since that time it has continued to do as good service as any tooth in the mouth.

Chloride of zinc

ger the life of the pulp. The pain for the moment is severe, but it soon subsides, and after the chloride has completely dissolved in the cavity it will be found entirely free from any sensation whatever. This we regard a much safer application than arsenic, and its effects are produced so instantaneously that the dentists may go on immediately with the operation of excavation.

We have had this article applied to sensitive teeth several times in our own mouth, before filling, and have often applied it in the mouths of our patients and have never been able to discover any difference, years after, between teeth plugged with the use of this article and those filled without it, in both the fillings seem to stand equally well.—*Ed. Recorder.*

CURIOUS EFFECT OF CHLOROFORM.

NEW YORK, *October 29th*, 1850.

DR. ALLEN,

Sir:—Allow me to ask (through your Dental Recorder) yourself and friends if you can inform me, with regard to the use of chloroform, if in its use you have found a case like the following, or can account for a person having two separate minds, one under its influence and another without it.

Some time since, a young lady called on me to have a nerve removed from a root, and determined to take chloroform. I gave her near two ounces, by degrees, which had no perceptible effect, except that she appeared more wide-awake and cunning than before, desiring more and refusing to let me touch the nerve, but would converse, and seemed to understand herself perfectly. I found it was of no use to continue the chloroform and concluded to give it up, thinking it would have no effect on her, when it occurred to me to try a strong antidote. I did so, and, to my surprise, she started, shook her head and appeared like a person just waked out of a sound sleep. I then questioned her, and found that she knew nothing and could recollect nothing that had passed since she first began inhaling the chloroform.

I have given it to over two hundred persons and this is the only case of this kind that I have ever had, if any more information can be given I should be gratified by obtaining it.

From your friend,

N. DODGE,
634 Broadway, N. Y.

BRIEF REMARKS ON ODONTALGIA.

Its Varieties, Treatment, and the Destruction of the 'Dental Pulp.'

BY GEO. J. ZIEGLER, M. D.

Messrs Editors.—The few subjoined and hastily written remarks, slightly modified, for obvious reasons, were elicited in answer to a request by a practicing physician in the South, for information with regard to the treatment and destruction of the dental pulp. Thinking that they might be made more generally useful, and as an appendix (if I may claim so high a character for them) to the excellent paper of Dr. J. D. White, in your last number, I transmit them to you. If you should consider them worthy of insertion in your valuable Journal you are welcome to them.

The best mode of treating nervous irritation, either of a primary or secondary character, in any part of the system, in the teeth particularly, is on the principle of *ubi irritatio ibi affluxus*, and, of course, by allaying the first, the second is prevented, retarded or arrested, and in consequence generally subsides in a great measure.

Odontalgia may depend upon, or result from various conditions. 1st. It may be purely inflammatory, and confined to the interior of a tooth; 2d. Neuralgic, which may be either of a local—limited to the part—or of a sympathetic origin; and 3d. There may be a pseudo-odontalgia, viz: periodontitis.

The two former are generally treated similarly, viz: 1st. Allay the excitability or irritability of the nerve by anodynes, the best of which are aconite, morphia and chloroform; and 2d. Remove the superabundant blood from the vessels by means of astringents, the best of which is tannin; or, which is still better, combine the two, anodynes and astringents. This combination of tannin with the vegetable alkalies would seem to be objectionable from their incompatibility with each other, yet in practice I have not found their properties destroyed on this account, but have obtained very speedy and beneficial results from them; the compound of tannin and morphia, particularly the one most generally employed. In the third, viz: periodontitis, in addition to these, scarification of, and leeches applied to the gums, with counter irritation in the vicinity of the disease, and occasionally in violent cases catharsis will also assist in, and be often, of themselves adequate to the cure.

The utility of the destruction of the nerve, or pulp of the tooth is denied by many, but, in my humble opinion, without just cause, for we have a precedent in nature in the vegetable kingdom, the teeth bearing

somewhat the same relation to the animal body that vegetables do to the earth. Thus, for instance, you will often find the whole interior or medullary part of a tree or plant destroyed, yet they will continue to grow and flourish for years afterwards, being supported by the nourishment afforded by the exterior surfaces or vessels, they in fact being generally the capillaries or nutrient vessels; the interior or central hard portion of many vegetables being analagous to the bones of the animal system, hence assisting materially in their support.

And again to come more directly to the subject under consideration, the pulps of the teeth are frequently destroyed by a variety of causes, yet it does not necessarily occasion a loss of them, for they often remain healthy, and are useful for years subsequently.

In the same way, in the destruction of the nerves of the teeth we choose the lesser evil, viz: either to extract, and thus sacrifice them altogether, or destroy part of their life by cutting off the nutrient supply to their interior, and in this way and condition retain them.

One of the greatest objections to the destruction of the dental pulp is, that there is subsequently, from the greater periodontal demand, and hence increased vascularity, a direct tendency to periodontitis which frequently terminates in suppuration and alveolar abscess, with the occasional production of a sac on the extremity of the root or roots of the tooth, which becomes filled with pus, and if this can be discharged by the formation of a passage through the bone, &c., to the surface of the gum, or sometimes exterior of the face, through a fistulous orifice, it will be relieved for the time, and all the violent symptoms subside, but only temporarily, for from the slightest exposure the inflammation, which is only passive or subacute, will again become active, and with the same result, or even increased to such an extent that, from the pain and discomfort of the thing, the tooth is ultimately obliged to be sacrificed. By proper precautions, however, this result may be prevented, viz: 1st. By destroying or allaying all sensibility or irritation before the application of the escharotic by means of anodynes and astringents; and 2d. Before the narcotic and other influence has passed off, removing every thing previously from the cavity, cleansing it out perfectly, even to the exposure of the pulp if possible, by applying a compound of anodyne and caustic.

The best escharotic for the purpose is *arsenious acid*, prepared by rubbing it up thoroughly with *oil of origanum*, adding either *aconite* or *morphia*, so that there will be a complete admixture of the caustic with

the anodyne ; the oil acting as a vehicle, although it is said of itself to be useful in odontalgia.

This is the general course and treatment which I pursue in treating and destroying the dental pulp, &c., though with, or in place of the morphia which is generally used, I frequently add or substitute aconite, it being a more direct and more powerful sedative, and also probably not being so incompatible with tannin as morphia.

Dr. White, however, it will be observed, uses morphia as the anodyne, and creosote as the vehicle ; but the latter is of itself so disagreeable as to be objectionable, and as it is used only as the medium, we would preferably resort, as we do in exhibiting our remedies internally, to something more pleasant and aromatic, which properties the origanum possesses to a great degree.

In my own practice I differ from Dr. White in some respects, believing that I get better results, but in the main his is the best that I am acquainted with, in fact my own being based upon his, and from whom I gratefully acknowledge the reception of my first correct impressions upon the treatment of the dental pulp.

In the first place, if I can have the patient under my charge, after cleansing out the cavity as well as possible, I introduce a narcotic such as aconite (the concentrated tincture of aconite for instance) or morphia and, if it is complicated with inflammation, tannin ; at the same time closing the cavity with wax. After this has been in long enough to narcotize the pulp, from a half to two or three hours for example, I remove the wax, &c., and cleanse the cavity, then introduce the caustic compound with an additional quantity of the anodyne, closing the cavity as before, and allow it to remain in from three to six hours, when I remove it, and, if possible, the dental pulp also ; if this latter is not practicable, the cavity is permitted to remain open for the escape of the sloughing pulp. If there should be any tendency to periodontitis, I reintroduce the anodyne and astringent ; and also, if necessary, scarify the gums to correct and subvert this tendency, and prevent the inflammation, &c.

The force of the objection to the use of wax over the cotton to close the cavities, does not seem to be sufficiently great to prevent its use, as it can be easily obviated by the manner of introduction. And, again, it would appear to be better than to leave the cotton exposed, which will absorb the poison, and if it will escape sufficiently to act on an adjoining tooth, it most certainly will to be diffused throughout the mouth and thus introduced into the stomach ; therefore as a means of avoiding the pos-

sibility of such an occurrence, the use of such substances would be preferable.

In most cases I do not fill the tooth for one or even several weeks subsequently, or until all the tendency to, or periodontal inflammation has disappeared.

It will be observed that I do not leave the caustic preparation in so long as Dr. White, my reasons are that I do not find it necessary, as I use a larger quantity of the escharotic and narcotic, and hence destroy the nerve or pulp in a shorter time, on the well established principle that small quantities of these remedies act more as an irritant or excitant than as an escharotic or sedative, just the same as if they are used on any other surface of the body. Thus, for instance, if a small quantity of arsenious acid be introduced into the stomach, it will irritate and inflame the mucous membrane, which may ultimately terminate in destruction and disorganization, accompanied with prolonged distress, &c.; but if a large quantity be applied to mucous or other surface, the death of the tissue is rapid, without the intermediate stages, or if so, of very short duration, thus producing the disorganization of the part in a comparatively short time without prolonging the accompanying pain and distress. And again, large quantities destroy the vitality so rapidly, as to retard and frequently entirely prevent absorption, whilst small quantities are more readily absorbed. In the time above mentioned, the preparation should be removed with the pulp if possible, as the destruction may proceed so far as to cause the immediate or ultimate loss of the tooth.

Arsenious acid is however not strictly an escharotic, as will be seen on referring to the U. S. Dispensatory, page 22, in which it is stated that "*Arsenious acid, when it produces the death of a part, does not act, strictly speaking, as an escharotic. It destroys the vitality of the organized structure, and its decomposition is the consequence. The true escharotic acts chemically by decomposing the part to which it is applied, and the loss of life follows.*"

In the majority of instances, however, you cannot have the patient at your disposal, therefore more caution must be exercised in the use of escharotics, and the better plan in such cases will be, after cleansing the cavity well, to introduce a larger quantity of the anodyne, but not so much of the caustic, and sometimes, but rarely, the astringent, and then close the cavity carefully with wax, at the same time requesting the patient to remove it in six or eight hours under the penalty of losing the tooth, to cleanse the mouth perfectly, reintroduce the wax, and

come see you the next day. This will depend somewhat upon the intelligence of the patient with whom you have to deal; sometimes it being sufficient merely to remove the wax, &c., cleanse the mouth, &c., without any more attention. In most of such cases, however, the quantity of the caustic should be graduated to prevent the possibility of subsequent injury from the ignorance or carelessness of the patient.

The period of the day for the institution of this treatment, as Dr. White properly remarks, is of great importance, the morning being preferable. Thus applying the anodyne and astringent at night, and early the next morning the anodyne and caustic.

The development of the teeth is another very important point with regard to this operation. If they are not fully formed, the attempt to destroy the pulp should never be made, as periodontitis is almost a certain result, and of course, in consequence, the subsequent loss of the organ operated upon. In many such, and in all cases where it is not advisable to destroy the nerve, yet it be desirable to retain the tooth, if only for a very limited period, the anodyne and astringent will generally palliate and frequently cure.

There are also other things to be taken into consideration respecting the modifications of the above mentioned course of treatment, viz.—the age, sex, temperament, &c., which are so obvious as to be scarcely necessary to mention them, yet are so important as to require special attention.—*News Letter.*

FAIR OF THE AMERICAN INSTITUTE.

The exhibition for 1850, held in October, was as interesting as any we ever recollect seeing, and continued for three weeks to draw crowds of delighted visitors to Castle Garden to view the innumerable specimens of beautiful workmanship from almost every department of the mechanic and fine arts. To the mechanical dentist these exhibitions are especially interesting as his mind is constantly exercised in studying the different combinations of the mechanical powers, the motions produced, and the adjustment of parts in every piece of mechanism, hoping thereby to discover something applicable to the dental art which will be new and an improvement upon that which is already known. Hence we find the dentists among the closest observers of the different articles exhibited at these annual fairs, and busily engaged in examining and scrutinizing every invention connected with the new articles on exhibition, and

many are the valuable hints which they there receive and which are afterwards applied in their practice.

In the mechanical department of our art there were fewer cases exhibited than usual. Among them we noticed one by Blanden & Avery of Columbia, S. C., which contained several specimens of artificial work exceedingly beautiful. There was one piece designed to support in the mouth two superior lateral incisors by the atmospheric pressure which we had seen in the mouth of the person for whom it was designed and which seemed to answer an admirable purpose, holding the teeth with a sufficient degree of firmness for all practical purposes. In adapting their cases to the mouth, these gentlemen have adopted the plan of soldering a small round wire, about the size of that used in the construction of spiral springs, around the edge of the cavities in such a manner that when the plate is worn in the mouth this wire will completely imbed itself in the gum. In cases where the plate is constructed without the central cavity this wire is soldered all around the plate just within the edge. The gum lying against the outer side of this wire forms a valve, which, these gentlemen think, prevents the air from rushing in under the plate as readily as it does when the plain plate is used without this wire. We were also assured by Dr. Avery, that this wire was so minute as to occasion no soreness or other inconvenience to the mouth.

A case containing several pieces which had been worn without any repairs for several years, was exhibited by Mr. Barlow of this city, and made in his usual highly-finished style. One of the pieces was the same which we noticed in the Recorder in our account of the last year's exhibition.

Among the dental machinery, instruments, &c., we noticed the convenient and very excellent dental drill invented by Mr. R. Spencer, and manufactured by Dietz Brothers; Chevalier's new dental lathe, a lathe constructed and exhibited by Dr. R. G. Holmes, of Brooklyn, and a case of instruments, not manufactured for exhibition, but selected from the ordinary stock for sale by Mr. Chevalier, which were of the highest and best quality. We also noticed a pair of forceps designed by Mr. Smith, a dentist formerly in practice in Penn., which were constructed with the view of adapting every part of the handles to the hand of the operator. So close was the fit that while holding the instrument the hand seemed to be enveloped in a complete steel glove; but to our fancy so much steel in the hand was rather an embarrassment than an assistance, and cramped the hand more than it helped it.

In the line of mineral teeth there was nothing very remarkable, and

no very decided improvement; the best, perhaps, were those of Mr. J. M. Buskey, for which he received a silver medal two or three years since, and a case exhibited by Mr. Samuel Ross.

Since writing the above we learn that the managers of the institute awarded the following premiums—

To Blanden & Avery, for the best artificial work, a Gold Medal; to E. Barlow, for second-best artificial work, a Diploma. To J. D. Chevalier, for best dental lathe, a Silver Medal, and a Diploma for dental instruments. To R. G. Holmes, for a dental grinding and drilling apparatus, a Diploma.

SPONGE GOLD.

Mr. S. A. Maine some months since left with us a specimen of gold for filling teeth, prepared in a new way, which from its peculiar appearance has been denominated sponge gold or gold sponge. It is of a dark brown or copper color, a part of it adhering together in small pellets, and having much of the appearance and texture of sponge, while the remainder is in the form of a fine powder. The spongy portions readily adhere together when submitted to pressure in a confined cavity, but the fine portions are very difficult to introduce into the hollow of a carious tooth, unless it happens to be situated in the inferior jaw and decayed upon its grinding surface.

We first tried this new preparation in a carious tooth out of the mouth, and were surprised to see with what readiness it seemed to adhere together under the pressure of a blunt pointed pluger. After the cavity had been carefully filled and condensed, we filed and burnished the surface, and found that it readily took the same finish which a solid piece of gold takes, without any of the roughness or scaling which is so difficult to overcome when polishing or burnishing a filling made of gold foil. We then cut open the tooth and took out the plug whole, examining it on the back and edges, we found every part of it solid and apparently welded together in one solid mass. On the anvil it was readily plated out with the hammer without any fracture except a few cracks around the edges.

This first experiment was so successful that we determined at the first opportunity to test it in the mouth, and selected for the experiment a superior molar, decayed on its anterior surface just back of an open space from which the bicuspid had been extracted. The location of this cavity afforded an excellent opportunity, when the head of the

patient was thrown far back, for the introduction of the filling, and we had little difficulty in making a solid, and, we have no doubt, a substantial and durable filling. The time, however, required for introducing and condensing the gold was considerably longer than it would have taken us to have filled the same cavity with foil; but this may be owing to the want of experience in the use of the material. There was also more difficulty in getting the cavity well filled about the edges, for the material was so exceedingly friable that it could not be heaped up enough above the surrounding edges to admit of condensation without then being below, and when once it had been consolidated we found it impossible to add more to it and make it adhere securely.

The next case in which we tried it, was a superior molar, decayed on its grinding surface, and here we had so much difficulty in introducing the gold and keeping it there, without wasting one half of it, that we were obliged to abandon the sponge gold when the cavity was about half full, and complete the operation with gold foil.

There seems to be but little difficulty in introducing that part of the preparation which assumes the spongy form, but the fine powder, cannot, without great trouble and considerable waste, be used in any but the lower teeth when decayed on their superior surfaces.

If pure gold could be prepared in the form of sponge, having the same property of cold welding, under pressure, which this preparation has, and possessing toughness enough to be introduced into the cavity without crumbling to pieces, it would undoubtedly be much superior to gold foil for the dentists use, as it certainly adheres firmer together, making one solid mass with much less pressure than foil. The superiority of sponge gold over foil, in this respect, is owing to its light porous texture leaving the particles of gold open and free to interlock and embrace each other when compressed, while in the foil they have all been compressed together by the hammer during the process of manufacturing. By the annealing of gold foil these particles are again slightly opened, hence it is that the foil which has recently been annealed always works best. Unless sponge gold can be made to possess more toughness than any which we have yet seen, we do not think it will ever supercede gold foil for the purpose of filling teeth.

Since trying the above experiments we have heard that sponge gold was tried a few years since by some of the dentists in Boston, but they soon abandoned it and returned to foil. One great difficulty which they experienced was the great waste which necessarily resulted from the difficulty in introducing the sponge. Another gentleman formerly in

practice at the south, has informed us that he also tried it a few years since, and found it impracticable. From the testimony of these gentlemen, and from our own limited experience with the article, we incline to the opinion that unless the sponge gold can be made to adhere together firmer so as to avoid this crumbling while using it, it will never supercede the gold foil for filling teeth. Some of our city dentists have used the article much more than we have, and we should be glad if they would give their views to the readers of the Recorder.

FLOSS SILK AND TOOTH POLISHERS.

Mr. L. S. Parmly was one of the first, if not the very first, to advocate the chemical theory of decay of the teeth. As early as 1821, he published a volume of lectures on the Natural History and Management of the Teeth, in which he contends that all the diseases of the teeth arising from decay may be prevented by a thorough system of external cleansing. The three following conditions of the teeth, he says, are the inevitable consequences of neglect.

“The *first* is by allowing extraneous matter to accumulate, and remain upon and around the teeth, until it becomes a corroding agent, which is an immediate and active cause of decay.

“The *second* is an unhealthy and dirty appearance of the tooth, followed by a softening and breaking up of the enamel.

“The *third* decomposition of the internal structure, resulting in toothache, great inconvenience, and an entire loss or death of these most important organs, so indispensable to perfect speech, health, beauty, and personal comfort.”

These inconveniences may undoubtedly be avoided in most cases by thoroughly cleaning every part of the teeth often enough to prevent particles of food from remaining in contact with them long enough for decomposition or acetous fermentation to take place. The tooth brush is the instrument commonly used for cleansing the teeth, but a very superficial observation of the manner in which it acts cannot fail to convince any one that something more is needed if we would thoroughly purify all the interstices between and around the teeth. For this purpose, Mr. Parmly has constructed a complete apparatus, capable of answering all the indications required. It consists of a *Tongue Scraper* for removing the viscid secretions which collect upon the tongue during sleep, causing a foetid breath, and very often an unpleasant taste in the mouth on waking. This is commonly attributed to a “foul stomach” and may result from fever in the system or too abundant secretion o.

the biliary fluid, but from whatever cause it certainly produces a *foul mouth* and does no good to the teeth. For the promotion of both health and comfort it should be removed with the tongue-scraper. The *tooth-brush* which is to be used thoroughly after every meal and followed by the *Floss Silk* which is to be waxed and passed through every space between the teeth to the gum. *Tooth Powder* is also to be used with the brush, or when discolored spots or stains begin to appear, with the *Argillaceous Tooth-Polisher*, which is designed for use immediately around the edge of the gum.

Mr. Parmly has the above apparatus in neat and compact cases which may be carried in the pocket without inconvenience, and it is by far the most efficient and convenient of any thing which we have seen.

The floss silk is an indispensable article to the dentist. It is the only one which we know, that can be made to pass between the closest teeth, and may be used for this purpose to detect the commencement of caries; for if the enamel is broken, the silk will be cut by drawing it through, while if the approximal surfaces are round and smooth, it will come out whole. It is also very useful, with pulverized pumice, for polishing the edges of the incisors, and removing the stain which collects between them in the mouths of children. We use it also for polishing between the shoulders which are left, near the gum, after separating teeth with the file, and for removing any particles of gold which may be forced between them while plugging. It is also excellent for polishing gold fillings, and for many other purposes.

We have long been convinced that dentists are very remiss in recommending strict and thorough cleanliness of the mouth and teeth. It may seem strange to many of our readers, but it is nevertheless a fact, that not one half the people who have teeth to clean know how to use a tooth brush. Most people only brush transversely from the convexity of one tooth to that of the next, without letting the brush touch in the interstices between the teeth. Hence we so often see a dark stain on the edges, while the prominent portions are kept clean. It is not only the duty of the dentist to perform all needful operations upon the teeth, but he should also be a constant preacher of cleanliness, and embrace every opportunity to enforce its importance upon his patients, and, if necessary, to illustrate the proper use of the brush and floss silk, by a practical experiment upon their own teeth.

We have been told that Mr. L. S. Parmly has in New Orleans what he calls a "Millenial Dental Nursery," where he collects together the children from different schools for the purpose of teaching them the im-

portance of thoroughly cleansing every part of the mouth and teeth. Many of them will undoubtedly hereafter bless his memory for having, in their youth, taught them a lesson which contributed so much to the health and comfort of manhood and age.

Every dentist should keep floss silk for his patients and should enjoin it upon them to pass it between all the teeth at least once every day. At first this may seem too great a tax upon their time; but a little practice in its use will make any one so expert that it may be done in from one to five minutes' time. In no case, after using it a short time, will it exceed five minutes, and if done once in twenty-four hours, it will remove all matter collected there before it has time to become either offensive or corrosive to the teeth.

HILL'S STOPPING.

We have received from the manufacturers a sample of the above material for filling teeth, which is finer grained and harder than any which we have before seen. Those who do not care to use amalgam for stopping deciduous teeth, will find this material to answer very well, or for any case when only a temporary filling is required. Dr. Hill writes us, "I consider it an excellent filling for any kind of tooth."

Since this substance was first introduced by Dr. Hill, we have used it in perhaps twenty cases, including almost every kind, and have since had an opportunity to examine many of them. In almost all the temporary teeth in which we have tried it, the result has been highly satisfactory, and when tin cannot be used it is perhaps the best article. In those cases where it has been masticated upon, it has not, in our practice, answered so good a purpose as tin foil, being soon eaten away. In two or three cases, on the sides of molars, badly broken, it has stood very well. In all dead teeth which from any cause the dentist does not choose to fill with gold or tin, it is a much safer material to use than amalgam—not that amalgam ever did, or ever will do any harm, except to stop a tooth so tight that no discharge can come by or through it, for it may be considered almost if not wholly inert—but while influential dentists embrace every opportunity, when an ulcerated tooth, filled with amalgam, comes under their observation, to attribute the disease to the poisonous effects of the filling, and to accuse those who use it of dishonesty, it behooves every practitioner to look to his reputation, and not give such *honest* dentists a chance to slander them in this manner;

better fill it with Hill's Stopping, plaster of Paris, or white wax, and best of all pull it out, as "dead men tell no tales."

MEDICAL AND DENTAL PUBLICATIONS.

A Treatise on the Diseases and Surgical operations of the mouth and the parts adjacent, with notes of Interesting Cases, by M. Jourdain, translated from the last French edition.

This work, which should be in the hand of every practicing dentist until he has become imbued thoroughly with its contents, is from the press of Lindsay & Blackston, Philadelphia, to whom the dental profession is indebted for many valuable works. A work like the present has been long needed, and, with the one now in course of publication in the American Journal, will prove a valuable accession to the dentists library.

The Northern Lancet and Gazette of Legal Medicine, edited by F. J. D'AVIGNON, M. D., and H. NELSON M. D., is published monthly at Plattsburgh, N. Y., and devoted to Medical Jurisprudence and the current medical intelligence of the day. It is a valuable and highly interesting publication to the general reader as well as to the medical practitioner.

The American Journal of Dental Science. This old and standard work comes to us under entirely new auspices. It has been transferred from the Society to Professor Chapin A. Harris, who is now the only editor and proprietor of the work. Judging from the appearance of the first number of the new series, its subscribers will lose nothing by the transfer. The number for October is filled with valuable articles.

The Dental News Letter, published by JONES, WHITE & McCURDY, commences its fourth volume enlarged to *thirty-two pages* and filled, as usual, with instructive and interesting articles.

Errata.—In the article on Transplantation of Teeth, by Dr. Gardette, page 280, Vol. 4th, first line, after the words "any degree" the following was omitted by the compositor and overlooked by the proof reader,—"to supply some of the deficiencies just referred to, I shall." Also in second line, for "protector" read *preceptor*. The reader will please correct by interlineation.

Delay.—An unusual press of business together with some derangement in the printing office, has delayed the present number of the Recorder longer than usual. The next number will be put immediately to press.

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No. 3

PRACTICAL DISCUSSION ON FILLING TEETH.---WITH REMARKS.

We find the publication of the discussions on filling teeth, continued in the last number of the American Journal, and that they become more interesting and instructive as they progress, so that we are tempted to republish the entire article, making occasional comments as we may dissent from the opinions of the members, or see an opportunity to add any items from our own personal experience.

Second Day, 3½, P. M.

"The chairman being requested by Dr. Harris to give some information with regard to the origin of the use of wedges, for separating the teeth, spoke as follows :

"Permit me to say, that I have never attended any meeting of the society in which I felt an equal degree of pleasure and interest to that I did yesterday in the discussion of subjects connected with practical dentistry. If we can carry on the zeal and good feeling with which we have commenced, we shall attain to the high objects which first led a few individuals to the establishment of this association, improve our knowledge and advance the interests of others, at the same time, with our own.

"It was remarked by Dr. Harris, that he believed I was the first who introduced the practice of using wedges. In the year 1820 I lost the crown of the first bicuspid tooth, and I had one engrafted upon its root, which I wore about four years, when the root becoming troublesome, I had it extracted. I then had one adapted to a gold plate, which I wore for the same length of time, when the adjoining root round which the spring was secured became tender from the contact of the spring or from other causes. It then occurred to me that the second bicuspid might by pressure be made to take the place of the first, and in 1832, being in the country and having time to attend to it, I commenced the operation by introducing a small wooden wedge between that tooth and the first molar, and by inserting a larger wedge each subsequent day, I found at the end of about four weeks that the crown had completely taken the place of the one previously lost. By wearing the wedge for a length of time, from which I suffered no pain or inconvenience, the tooth maintained its position, and so continued for several years. On my describing the sensitiveness in the neck of the tooth, occasioned by the abrasion of the spring, to Dr. S. Brown, he proposed covering or

protecting the exposed surface with mineral paste, which he said he had discovered a new mode of preparing, and a few days afterwards the paste was applied by Dr. B. In a short time the tooth became exceedingly painful, and I had it extracted. This was my first and only experience with mineral paste. The result of its application in my case being almost immediate inflammation of the gum and membrane, from which I lost the tooth."

It is with considerable diffidence that we ever dissent from the opinions of our seniors who occupy as high a position in the profession as the "chairman" of the American Society; but when we do dissent, as an editor, having charge of a work published for the diffusion of intelligence among the profession, we feel bound to make it known to our readers.

An operation for moving a tooth any great distance, after the patient has passed or reached near the age of thirty years, has, we believe, always been, and is now, considered extremely hazardous, we cannot, therefore, regard an attempt to move a bicuspid the distance of nearly its entire diameter, (as was done in the above case) into a position from which another tooth had been extracted from four to eight years, with the absorption which always takes place in the alveolar process, as a safe practice to adopt. By pressing the second bicuspid forward to make it occupy the place of the first, most if not all the remaining bone in front of it, to a considerable distance upward, would be absorbed, so that, with the absorption of that which supported the first bicuspid, the second on arriving in its new position must have been left with but little support, except such as the gum afforded. In this condition it could not without the miracle of creating a new alveolus remain in a healthy condition many years. The natural consequence would be looseness, and consequent irritation and inflammation around the fang, accompanied by pain, soreness and suppuration, which would finally throw the tooth off unless sooner extracted.

Such being the natural pathological result of a tooth treated in the way this had been, it seems to us manifestly unfair and wrong to attribute it to the application of mineral paste. This "result" may have been produced by the *filling* of the fang but not by the mineral paste as a gold or tin filling would have produced the same. Amalgam has sins enough to answer for; but we submit to our readers the opinion that when put in a defective tooth it never yet caused either the death of the pulp, or "inflammation of the gum and membrane," unless that pulp had first been reached by the cavies or otherwise. "Give the devil his due."

"On my return from the country in 1832, I commenced operating by means of wedges in front teeth, instead of filing them as I had previously done, and I continued to do so, believing it to be the most prudent and successful method of separating front teeth for the purpose of stopping on their contiguous edges or sides.

"After I had been in this practice about a year or so, an incident occurred which led me to the belief that such a mode of procedure was not known and had never been performed until I adopted it. Miss T., then about twelve years old, came to me; her front teeth were decayed, there being cavities in depth about twice the thickness of the enamel. Her mother asked me if I thought it best to file, in order to stop them. I replied, that in so young a person, I did not deem filing advisable, and that I would open them sufficiently by means of wedges and then stop them, and that when stopped, the teeth would immediately fall together again. The mother said that she had heard of my operating in that way for a young friend of her daughter's; and, that she had called upon her dentist that morning to have her child's tooth filled by him in that way, when he asserted 'Madam, it cannot be done.'

"The lady replied, 'Mr. Parmly has done it for a young friend of hers.' The dentist, with great and emphatic earnestness, reiterated—'Mr. Parmly may say he has done it, but it cannot be done.' After such a marked display of professional courtesy, I felt exceedingly interested in the matter, and with the lady's consent, I began wedging, and in a week or so, completed the operation by carefully stopping the two teeth. I then requested her to show them to her dentist, to prove to him that it could be done.

"From that day to this, I have uniformly followed this practice in all cases where it would have been necessary after filing to cut into the sound portion of the tooth for the purpose of getting sufficient depth to retain the stopping, or where the nerve by such cutting might be laid bare, or so nearly so, as to endanger the vitality of the tooth from the pressure caused by introducing the gold. Two points are indispensable in stopping the sides of front teeth—space to enable the dentist to operate, and depth of cavity to retain the stopping. If that portion of the tooth is filed away, which if suffered to remain, would have given sufficient depth, the latter requisite must be obtained by excavating; and thousands of beautiful front teeth have been entirely ruined by these injudicious excavations, which might have been permanently saved if wedging had been at first employed to gain the space required, leaving the enamel entire as the surrounding wall of the plug.

"I have rarely failed to obtain a smooth wall by taking off the thin edge of the enamel to such an extent that an even surface could be gained. It is now more than seventeen years since I first performed the operation, and I do not remember a single instance where the death of the tooth has been occasioned by wedging. I have seen the vitality of teeth sometimes destroyed that had been wedged, but a careful examination could always trace it to the pressure of the gold upon the nearly or altogether exposed nerve. I do not claim any great merit for

the discovery of the use of wedges; but I consider the process important and valuable alike to patient and the careful dentist.

“About the year 1835, a young patient of mine was in Paris, whose father wrote to me that her two front teeth were beginning to overlap each other, and desired to know what I would recommend in such a case. I wrote to him not to have the teeth filed, but to apply wedges, and requested him to call upon Mr. Brewster. Mr. B. performed the requisite operation most satisfactorily without filing, and sometime afterwards I received a very excellent letter from him on the subject, making reference to this case and alluding to experiments which he had made with India rubber, which he advised me to try in similar cases.

“Objections to this mode of operating that it induces irritation and inflammation have originated, I think, from means which have been injudiciously and improperly had recourse to. I knew a gentleman who is exceedingly nice and circumspect in his attention to his teeth. He has been for fifteen years in the habit of opening them by introducing folds of linen for the purpose of having them examined on their lateral surfaces without the slightest inconvenience or pain. I have worn wedges between my molars two and three months at a time.

“We have many cases in which wedges are not required when the teeth are so much decayed as to make it necessary to cut away with the file or other instrument a considerable portion of the tooth. In doing this, sufficient room is commonly gained for the purposes required; but in such instances, I file no more than is absolutely necessary to procure a good surface, and if sufficient space is not thus obtained, a single day or so with a wedge will suffice to get all the width that may be needed.

“My wedges are generally made of pine wood, but I have used hickory, cedar, dog-wood and India rubber with equal advantage, and in numerous cases, I have not used any thing with greater satisfaction than cotton, it possesses the double value of pressing aside the gum which sometimes partly covers the cavity and it separates the teeth at the same time, thus enabling the operator to fill without annoyance from bleeding. The file may be used with benefit, and more freely upon the bicusps and molars, than upon the incisor teeth; when well filed, so as to be kept apart, they retain their stopping better than when their sides approximate so as to touch each other.

“I have within the last few weeks wedged the teeth apart for the purpose of examining them, of the lady who came to me at the age of 12, before alluded to, and found them as perfect, and free from decay, as on the day they were stopped, now about 16 years ago.

“As regards filing I have had no reason to change my opinion of its importance, since the publication of my first little Brochuse, in 1820, according to the facts of my experience, I then regarded the file in the hands of the skilful operator a most valuable instrument, none more so, but it should be used with great caution, otherwise it is the most destructive of all implements, and has ruined more teeth than all others put together. I had a case of a child, probably about 12, the enamel of

whose teeth was of that soft perishable character, that it seemed almost impossible to do any thing to save them. They could not be stopped, their sides being wholly decayed, but the decay had not as yet penetrated to any considerable depth. In order to get sufficient room between the teeth to enable her to clean them, I cut a large portion from the side of each tooth with a common sized round file, giving the teeth a wedge like shape, the neck representing the thickest part of the wedge, and polishing the filed surfaces as well as I could. At that time, I did not believe that these teeth could last beyond a very few years, but ten or twelve years have now elapsed, and they remain perfectly good, and will probably continue so during life.

"In moving teeth by wedges, I do not imagine that the point of the fang is stirred, nor have I ever known a nerve ruptured or injured by careful wedging.

"It is now about eighteen years since Mr. J. Parmly made a little machine, not unlike a miniature windlass in form and power, for the purpose of bringing a superior cuspidatus into its place, which fell completely within or behind the lower cuspidatus and first bicuspid. The operation of moving it occupied about three weeks, it was a large and firm tooth which had taken that direction from the temporary cuspidatus not having been removed in time, which retained its place, covering or hiding from view the one in question until the lady was about twenty-eight years old, when it loosened and dropped out, leaving the very unsightly defect which we were then called upon to remedy. When the lady was about twenty, I proposed performing the operation, which at that time was declined as a thing impracticable, herself and friends having been previously told that 'it could not be done.' The tooth in question, was moved a greater distance, and at a later period of life, than any one I have ever known, yet it remains firm in its socket to this day, while some of its neighbors have been lost from alveolar absorption.

"It is necessary to caution our patients, as to the question of wedging, many are apt to suppose, from seeing it done, that it is a very small and easy matter; and I have had persons come to me with large pieces of wood forced between their teeth, thus opening up a gap to almost the width of an entire tooth. I have always cautioned such, not to use wedges without definite and proper directions, and I would recommend all others to do so."

The views of Dr. Parmly upon this interesting subject are particularly interesting and instructive, as his experience in this mode of operating has been very extensive. The operation which he describes as having been performed for a young Miss at the age of twelve and examined sixteen years after, and found perfect, was certainly very satisfactory. If this mode of separating teeth can be made to prove successful in a majority of cases, it will prove to be a great improvement in our practice; but we must confess that we have little faith in it, except in those few cases where the teeth have an abundance of room, and in cases of

this kind only between the incisor teeth. In the crowded dentures of young patients, we have never found it successful, as decay has invariably attacked the tooth at the spot where it pressed hardest upon the adjoining tooth. This is generally indicated first by a dark bluish stain showing through the enamel, which is soon followed by softening of the bone around the filling.

We have often separated teeth which were not crowded, for the purpose of giving room to operate, where the fillings remain perfect to this day, and it is possible that they might remain so in a crowded denture, if perfect cleanliness were afterwards observed; but there are so few who keep their teeth even passably clean, that we deem it important, in determining whether to separate by the file or wedges, to take into consideration the condition of these organs as to whether they are crowded or not. When there is room between the teeth, the friction caused by eating tends to keep them free from impurities.

"*Dr. Dunning* wished to know *Dr. Harris'* experience with regard to the success of filling over exposed nerves—what was the advantage of the process of arching the filling over the nerve, to simply covering it with a cap.

"*Dr. Harris.*—If it had occurred to me previous to leaving home, I could have brought some statistics upon the subject, which might be interesting to the society. Wishing to obtain all the information I can concerning any new operation, I have been in the habit of noting not only the number of operations of every kind, but the circumstances under which they were performed. In 1833 I performed for the first time the operation of filling over an exposed nerve. The teeth were two central incisors, and being unwilling to destroy their nerves, as I believed that by so doing, the chances of their permanent preservation would be lessened, and as I had frequently failed of success in capping the nerve, I determined to fill without doing it. I did so, and the teeth remained healthy and sound for nearly seven years. I did not, however, repeat the experiment again for several years, deeming it a somewhat hazardous experiment. At length, however, I performed the operation again, but this time it proved a failure, inflammation supervened, which ultimately terminated in the suppuration of the lining membrane. Some years after, I repeated the operation and was successful, and until August, 1846, I had performed it, perhaps about twenty times, and fourteen with success. Since that time, I have been more successful, and during the past year, I have had to extract only three teeth treated in this manner.

"The success of the operation not only depends upon the care with which it is performed, but also upon the absence of pain and inflammation at the time.

"*Dr. Westcott* inquired if *Dr. Harris* filled teeth in this way, that came to him aching?

"*Dr. Harris.*—Never. I never perform the operation when the lining membrane is inflamed. In such cases, if the preservation of the tooth is of great importance, I remove the entire contents of the tooth, either with an instrument immediately, or first destroy the vitality of the pulp with arsenic and afterwards remove it, and fill the entire pulp cavity. Capping the nerve when it can be properly done, is quite as good as my method, but the amount of skill required is such, that I do not succeed as often in this way as the other.

"*Dr. Asa Hill* stated that he had a tooth capped about a year ago, by *Dr. Foster*, and it had been preserved as well as any tooth in his jaws.

"*Dr. Rich* inquired what means *Dr. Harris* took to keep the cap in its position?

"*Dr. Harris* replied, that he cut a groove or bearing for the cap in the walls of the cavity, then fitted it in such a manner as to prevent it from being easily displaced or moved by the introduction of the foil. But for the last three or four years I have not found it necessary to apply a cap previously to the introduction of the gold in a single instance. *Dr. Rich* inquired if a cap of polished gold plate could be so placed that it would not move during the filling of the cavity, if it would not be a better surface to be presented to the exposed nerve, than the rough one, that is presented where the arch (or cap) is formed by the filling, in the manner you have described?

"*Dr. Harris.*—It is possible it might, yet in most cases the cap occupies so much room, that as a general rule, a filling cannot afterwards be as substantially introduced. *Dr. Koecker* was the first to recommend capping, but he employed sheet lead; from the supposition that it possessed anti-inflammatory properties. I believe, however, that *Dr. Fitch* was the first to apply caps of gold.

"The chairman here mentioned that his brother had used caps before *Dr. Fitch* published his work.

"*Dr. Rich.*—I frequently fill teeth where the nerves are exposed. In such cases I use a gold cap to protect the nerve from pressure. I never find it difficult to place and retain the cap where I want it.

"I will describe the manner in which the cap is made and placed over the nerve. I make a convex cap of polished gold plate, of such size and shape that it will rest upon the solid bone which surrounds the orifice opening into the cavity of the nerve. I fit this accurately, and polish and burnish the edge. For placing the cap over the orifice, I use a small instrument of steel wire, eight inches long; about two inches of this is drawn or filed down, to form a shank about the size of a number six sewing needle, and is left untempered, to allow of its being bent. The point is bent round, so as to form a small ring or eye, of such size that an ordinary sized knitting needle will pass through it; the shank is then bent close to the eye, so that the eye will stand at a right angle with that part of the instrument which forms the handle. Where it is necessary to place the cap in the required position, I bend the shank of the instrument just described to the proper form, and dip the eye in

melted wax, and while the wax is warm, attach the instrument to the convex face of the cap, which is then placed in the proper position, where it is held firmly, and gold foil packed around the edge of the cap until the cap is secure. The small instrument is then detached from it, and the wax carefully removed. At this stage of the operation, the cap presents the appearance of a jewel in its setting, and in fact is secured in the same way. After the wax is removed, gold foil is packed in and condensed until it is level with the apex of the cap. This generally occupies from one-third to one-half of the depth of the cavity in the crown. The gold foil thus introduced is then levelled and burnished, and forms an even solid floor to the main cavity, which is then filled up the same as any ordinary cavity.

“By the method just described, the gold with which the cap is secured in its place, or the setting of the cap as it may be called, is entirely distinct and separate from the top layer with which the rest of the cavity is filled, so that in case any part of the top layer should be displaced, from accident or design, it would not interfere with the cap. I never attempt to treat a nerve in this way, unless I expose it myself. Slight hemorrhage sometimes follows the exposure; yet, in my practice, the operation rarely produces inflammation. I have often exposed the lining membrane without producing hemorrhage. With a good light and a steady and delicate hand, the membrane can be exposed five times out of six without hemorrhage.”

For the Recorder.

PREPARED COTTON.

MR. EDITOR.—In the recorded conversation of the American Society of Dental Surgeons on the subject of drying cavities, I saw no mention of an article which I have found well adapted to the purpose, and which is used, perhaps, by many in the profession. It is *Prepared Cotton*. For this purpose I procure fine Georgia or Alabama cotton, immediately from the bale; (the *bats* which many use are the cleaned sweepings of factories) and prepare it as follows—

Cotton,	1 lb.
Sal Soda,	$\frac{1}{2}$ lb.
Water,	1 gal.

Boil the cotton in the solution of soda and water, for two hours, then wash thoroughly in clear water, dry it, and it is ready for use.

The *rationale* is evident. The cotton in its natural state is saturated with vegetable oils, (oil is made in large quantities from the cotton seed) the soda unites chemically with the oil and forms soap, which is washed out by the clear water. Salerætus or Potash may be substituted for the Soda, but are more liable to impart an alkaline taste to the cotton.

SYLVESTER.

Lyons, N. Y., Dec. 1850.

From the American Journal of Dental Science.

EXPERIMENTS IN THE USE OF TIN FOR INSERTION OF TEETH.

By W. A. ROYCE, Dental Surgeon, of Newburgh, N. Y.

My first effort was made in 1836, for a lady aged about sixty, who had lost her inferior incisors and some adjacent teeth, in a sound and beautiful state, by harsh brushing, and desired me to replace them with little or no expense.

After an impression and plaster cast were obtained, the ejected teeth were cut off near the end of the root, and perforated with a small drill, and strung upon a silver wire; then placed on the plaster cast, and supported by the wire around the plaster teeth, in proper position, and at such space above the cast of gum as would permit molten tin to flow beneath the teeth; after which a curb was constructed around the teeth and gum, properly dried, and the tin poured in, thus forming a base fitting the gum and clasps to the permanent teeth, and holding the inserted teeth firmly. Filed, polished and introduced, it gave great satisfaction until the death of the patient, which occurred some eight or ten years thereafter.

My second use of tin was in 1838, for a lady aged about forty—to insert her own incisors, which had fallen out, and afford support to an entire upper set by spiral springs—tin base to rest upon gum and badly worn down teeth, and attach to a few loose, attenuated teeth—a temporary resort for a patient imbued with more fear than discretion.

The tin base enclosing the teeth was stereotyped over the gum and teeth, as in first case, and filed, fitted, polished and springs attached.

Calling some two or three weeks thereafter, she said it had caused her much pain, but was then comfortable; and it was a long time in service, with about the usual results. I became prejudiced, however, against tin to lay on the gum, and used but one more, without plate, to lay on the gum. This third case was a tin base, in an entire upper and lower case, for a gentleman about sixty-five, whose saliva was so inert that sixteen carat gold plate would not tarnish sooner than eighteen carat usually does. He wore, and used severely, his teeth for about two years, when I struck and fitted a gold plate, of about No. 30 and stereotyped the tin on it—embracing the teeth which had been freed from their former base for this melting. An accident occurred in this experiment: the tin used was too hot, and amalgamated with the gold plate just where the current of molten tin impinged on it. Thus I

learned that tin should not be hotter than barely to produce limpidity. I think I did not misjudge when, after several years use of these cases, I abandoned the employment of tin for the part coming in contact with the gum. It did not produce irritation on the central part of the gum; but toward either outer or inner border, in contact with integuments, often abundant, and sensitive, it seemed to me to be more irritating. Tin will corrode in contact with excoriated surfaces in the mouth, and throw up a slight pile of grey (chloride?) compound, insoluble in the saliva, somewhat harsh to the feel, crisp to the file or scraper, and at least mechanically irritating to the excoriated surfaces which caused it.

My fourth experiment was for an elderly lady—mouth totally toothless; desired the lower denture only, on a very broad inferior maxilla and large alveolar ridge, to match the teeth in a small superior maxilla and gum. This was another nothing or next to nothing pay case; but I attempted to better my former practice, and struck and fitted a silver plate. Set French teeth with silver wire studs soldered to plate: stereotyped the tin gum on the plate; gilded all parts finely and prettily. Thought I had made a fine advance. It was tried fairly for several days, and proved to be a superior sialogogue. I question the superiority of mercury to produce ptyalism.

My fifth effort was to insert an entire upper and lower denture; lower gum narrow, and summit thin. The teeth were mounted in the usual way on gold plate, except the metallic gum was tinman's soft solder, flowed around the teeth with a tinker's iron. Twelve or eighteen months use showed the gum shelling off—a black and separating mass, like the moss on the bark of a forest tree—another mortifying experiment, but easily remedied by substituting pure tin for tinker's solder.

The sixth experiment was the same as the fifth, except the lower gum was wider, and silver linings were used, and the tin made to serve both to fasten the teeth and load the plate. The silver linings evinced galvanic polarity, causing frequent pricking shocks to the tongue. Gold lined teeth were substituted, and the shocks obviated. This experiment, made in 1841, has decided all my practice since. I get up my lower cases, when entire, about the thickness known as No. 30. Strike the plate about one-sixteenth to one-eighth inch extra wide; curve up the edge the extra width on the outer border; coat the upper surface with pure tin, using a tinker's soldering copper, and saturated muriate of zinc as flux. The teeth are next arranged so as to articulate properly, but if admissible their lower ends are broken off, to permit a considerable body of tin to flow under them; line them with the same

thickness of gold plate ; place them in position, with wax on their lined faces ; set them in plaster, and when the wax can be removed, proceed to solder them by their linings, with tin, to the plate, filling all smoothly from tip of teeth to lower edge of gold plate ; remove the plaster on the outside of the teeth, and fill up the interstices and base of teeth in such quantity as pleases ; file off any excess of tin any where ; preserve a thick smooth border to the plate, both within and without the arch ; scrape down all asperities not to be reached by the file ; mat the surface with fine sand-paper ; clean out the sand and burnish smoothly ; then finish beautifully with flannel and chalk, which last will ever after preserve the cases cleanly, if used daily. By this method any or all the teeth are readily detached, set in new position, and re-secured, *ad infinitum*. For fractional cases, gold plate should be heavier, and the clasps soldered on with gold solder, as in using the tin solder they become detached in use, or when repaired or altered.

Very extensive accommodations can also be afforded to the gum, by taking the tin gum or teeth off over the misfitting section, bending the plate to fit, and again restoring the gum or teeth.

To stereotype the gum, instead of the process of flowing it on with a soldering copper, I have tinned the linings after riveting—set the teeth in position—placed pure yellow wax around the teeth, just as I wished the tin to be added—cast the whole in plaster—exposed the whole to such heat as would dry the plaster and cause the wax to be absorbed by it—cut an opening to pour the tin through before such drying ; take a proper quantity of tin and fuse it in an iron spoon ; watch the fusion, and permit no greater heat than sufficient to cause the convex edges which first are prominent around the edges, to disappear—in other words, to make the whole surface of the molten tin flat ; then pour it in the plaster flask, and soon as it has cooled break off the plaster, when the tin will be found to occupy precisely, or very nearly so, the exact place of the wax. Little sand-papering is generally all the trimming needed ; sometimes certain spots may require a touch of the soldering copper.

The immunity against corrosion that cadmium possesses, seems to indicate that it might be better than tin. I have not tried it. My efforts to coat tin with galvanic gilding were futile, as the gold very soon disappeared from the friction of aliment.

PRACTICAL DISCUSSIONS IN THE SOCIETY OF DENTAL SURGEONS OF THE STATE OF NEW YORK.

At the regular stated meeting of this society held on the evening of December 3d, the subject set apart for discussion at the annual meeting; viz.: *Is pure tin a suitable substance for the basis of artificial teeth?* was made the special business of the evening.

Mr. Geo. E. Hawes stated that he had experimented with this substance for several months past, and had satisfied himself that tin possessed many advantages over gold for supporting artificial teeth, particularly for lower sets. The advantages were *weight, cleanliness, comfort and ease*. One great trouble which persons experience, who wear entire sets without springs, is the difficulty of keeping the lower set in its place, particularly where the alveolar process is so much absorbed that the edge of the plate interferes with the motions of the tongue, the lips and the cheeks, where they unite to the jaw bone. This difficulty of keeping the lower plate down, often much greater than is experienced in keeping the other one up, is very much less when its weight is increased by the addition of tin.

In point of cleanliness there was no comparison between sets of teeth constructed in the ordinary way, and those mounted on tin bases. In the former there are many spaces and joints which cannot be made so perfectly tight but what the fluids and secretions of the mouth will penetrate them, carrying along with them particles of food which, under the influence of heat and moisture, soon begin to ferment and throw off putrid gases which often make them exceedingly offensive, and to prevent which requires no small amount of care and time: while in the latter the teeth are so completely surrounded and embedded in the tin that not a particle of moisture can penetrate between them. This is a very great and decided advantage to those who are obliged to resort to artificial teeth.

On the score of ease and comfort nothing could exceed the tin bases when put in the mouth. He believed that a very common mistake made by dentists in constructing lower plates was making them too wide so that they irritated and cut the soft parts. Both gold and tin will do this if too wide; but the tin bases could easily be altered, leaving a thick round and smooth edge, and if made the right size, he did not think that tin would irritate or excoriate the mouth more than gold. He had observed, however, that when from any cause, the mouth was excoriated, then the tin seemed to be tarnished and coated with a white

rough substance. (Dr. Royce had noticed the same.) He thought it expedient therefore in all cases where the plate is not to be coated with gold to strike a thin gold plate to cover the jaw and solder the teeth to this plate with pure tin. Mr. Hawes had one case which was galvanized with gold, and had been in constant wear more than a year, and thus far exhibits no signs of wearing off. He also read the following testimony from one who has practiced for several years in this way—

“The experience of Dr. C. O. Crosby, of New Haven, corroborates that which I have given, and has the advantage of much longer trial.—In answer to some enquiries he writes to me thus: ‘Mr. — has worn his under set, constructed upon tin, for nearly three years, and still perfect. Another patient, Mrs. —, has a set, which has been in use for two years, still in good condition, but has a silver base or plate, is filled in or loaded with tinner’s common soft solder, galvanized with silver, a thin coat, and burnished, and then galvanized with gold, about three coats, and burnished each coating. There is about \$2,50 value of gold on each plate. I have about sixty plates made upon this plan.—Soft solder plates look dingy unless well galvanized with gold. The galvanizing will stand if there is any gold put on, and they actually require less cleaning, from the fact of the gold being pure. There is no galvanic action when all the other metals are covered. I consider tin alone, without galvanising, *better* and having *less taste* than *eighteen carat gold*, with copper, silver and gold for solder. I have never found a person that could not wear them.’”

Mr. Warren Rowell had been in the practice, several years since, of loading his plates with tin by riveting it under a gold plate on which the teeth had been set in the usual manner: but after a while, the tin corroded under the plate and broke to pieces, and he had abandoned the practice.

Mr. J. G. Barbour had tried the experiment on a part of an upper set, but found that the tin would not adhere to the platina pins sufficiently to hold the teeth. He then tried it with silver backs to his teeth, and succeeded very well.

Mr. Hawes suggested that for parts of sets it would not work so well, because the clasps could never be repaired or altered without destroying the piece.

Mr. George Clay had made sets of this metal by casting a tin base, and pivoting the teeth to it as sea horse bases were formerly made.

Dr. C. C. Allen had constructed one set, which had been in use more than a year, under the following circumstances. He first made a temporary set in the usual manner, a few days after extracting the fangs of most of the teeth in the lower jaw. After it had been worn a few weeks

all the teeth were too short, and the plate fitted very badly, or, in other words, did not fit at all. He then cut off all the teeth, struck up the plate to fit, and again put the teeth upon it, raising them up so as to give the required length. They were then coated with plaster and sand on the outside, and the backs soldered to the plate with pure tin, using a common tinman's iron. This done, the plaster was removed from the teeth, and the tin made to flow under and around their fronts. When polished it was worn with great satisfaction by his patient. He had also made cases for persons wishing duplicates, by casting tin around the teeth when arranged upon the model as described in Vol. 4, No. 12, of Dental Recorder.

Mr. J. A. Maine said that he had made several sets of teeth after this method, and was disposed to think very favorably of it, but it would require some years to thoroughly test it. He thought that the tin in all cases should be covered with a thick coating of gold and smoothly burnished to prevent any accretion upon it. For plating he had used the galvanic battery and the usual method of plating with thin sheets of gold. On being asked to explain this latter method, he said that he generally used gold twenty-two carats fine, or common coin, plated in a rolling mill to about No. 60. After the tin had been finished he cut a strip of the gold the right size and shape to cover it, and with a heated soldering iron pressed one end of it against the tin until it adhered, then with a burnisher he rubbed it down into contact with every part of the tin, sticking it with the heated iron in one or two other places. The soldering iron is then passed backwards and forwards over it until every part of the surface of the tin is fused sufficiently to cause the gold to adhere firmly to it. When completed it is to be finished with the burnisher. By a little practice a very beautiful and durable plating may be put on in this way, and in much less time than is required to plate by the galvanic process.

The above is the substance of the *conversatione*, and was highly instructive and entertaining to all the members present, giving evidence that the society is just waking up to the importance of the object for which it was organized, viz: MUTUAL IMPROVEMENT.

FASTENING OF BLOCKS.—WITH REMARKS.

We have often had occasion to notice the change which has taken place among dentists, during the past few years, in respect to communicating new ideas and modes of practice for the benefit of others. The

old system of secrets seems with few exceptions, to be entirely exploded among intelligent and honorable practitioners, and each one now appears to strive to see who shall most freely bestow his mental stores for the benefit of his fellow laborers. All this augurs well for our art, and is doing much to raise it to the dignity of a liberal profession; but in this liberal diffusion of knowledge we sometimes see a zeal to communicate without knowledge, which should be based upon either correct observation or experience. Thus a writer in one of our dental periodicals communicates the following method, which by the way is not new, for fastening blocks of teeth to the plate.

“*Messrs. Editors* :—I wish some of your contributors would inform the profession, of the best method of fastening blocks to the plate. I have tried soldering, and riveting in several different ways. For a few months past I have practiced the following method, and prefer it to any other with which I am acquainted. Let each tooth of the block have a hole of the usual size through its entire length, without being counter-sunk on the grinding surface. Platina rivets, somewhat shorter and smaller than these holes, are then to be soldered to the plate in their respective positions; the blocks are then easily slipped on to the plate, and are to be fastened in the following manner: make a cement by taking two parts of sulphur, by weight, and one part of pulv. felspar, mix them together in a small crucible, and melt them slowly over a spirit lamp until they are thoroughly incorporated, and the mass has slightly changed to a reddish color; now remove the crucible from the lamp and place it in a cup of charcoal, to prevent its cooling. Be careful that the sulphur does not *burn*, if it should, it will destroy the cement. Now heat the plate and blocks gently by the lamp, and then place them upon a *dry* plaster cast; with a small instrument of wood or steel put some of this melted cement between the blocks and plate, and press the former firmly down upon the latter, holding them there until the cement hardens, which will require but a moment. The blocks are now firmly fastened, small spaces between them and the plate obliterated, preventing entirely filthy accumulations, and making plate and blocks one solid piece of work. After this is done, press firmly around the rivets small splinters of seasoned hickory, so as to fill entirely the space around the platinas; then with gold foil make a solid and handsomely finished plug above the rivets, filling up entirely the holes in the blocks. The plate should be cleaned *before* putting on the blocks, as, after they are fastened in this way, it will neither do to put them into acids or the fire. One great advantage in confining blocks in this manner, is the facility with which they may be removed when desired. Another is the rapidity with which a set may be fastened in this way, requiring as it does, but little more time than I have taken in communicating the method. If any of your readers have a better way, I hope they will let it be known.”

This method of practice may do very well for temporary sets of

teeth; but will not stand the constant wear of mastication for years, as a permanent set should be made to do. After a few months wear the cement will begin to work out from between the blocks and plate, soon after the blocks will loosen upon the pivots and if not again cemented and made tight the pivots will break one by one until the block falls off, or is found swinging upon one pivot like a garden gate. We have often been called upon to repair sets of teeth even when the pivots had been as firmly rivetted as they can be on the grinding ends of the teeth. Every plate unless made of thicker gold than is generally used for upper sets will spring every time it is bitten upon, while masticating hard substances, and, as persons generally acquire a habit of eating all hard substances in one place, (which is oftenest with the bicuspid, when using whole sets,) the spring is always repeated in the same place until the cement gives way, and the pivots break, or the plate itself cracks in two. With every years experience in mechanical dentistry, we have increased the strength of our artificial work, especially when inserting double sets for strong, healthy business men. For the front block we use the largest sized platina wires which can be put in, and for the bicuspid and molars both the rivets and gold backs. In this manner we have succeeded in making sets of teeth which have stood for several years without any accident happening to them, and in some cases after those persons for whom they were made had worn out or broken to pieces, two sets in less time than they have now worn these. The above method makes the strongest sets of teeth of any we have seen, unless the new plan of soldering with tin, by reason of the extra stiffness which it gives to the plate, shall be found superior to it, to test which will require several years of constant wear.

PROCEEDINGS OF THE AMERICAN SOCIETY OF DENTAL SURGEONS.

The eleventh annual meeting of this society took place at Saratoga Spings in August, 1850.

Eighteen members were present during the session, which lasted three days. The secretary being absent C. O. Cone was appointed secretary pro tem.

The report of the Committee on tabular sheet, containing statistical facts, was made by Dr. Cone, and adopted.

The Committee appointed at the called meeting in Baltimore to consider the propriety of rescinding the *Amalgam Pledge*, reported, through their chairman, Dr. E. Townsend—which report after considerable discussion, and recommittal for the purpose of amendment, was finally adopted, and the following resolution along with it.

Resolved, That the several resolutions, adopted by the American Society of Dental Surgeons, at the annual meetings held 1845-46 having the effect of enforcing subscription to the protest and pledge against the use of amalgams and mineral paste fillings for teeth, be, and the same are hereby rescinded and repealed.

The society also voted to discontinue the publication of the American Journal, and transferred it, with all its debts, to Prof. Chapin A. Harris of Baltimore.

The offices of Corresponding and Recording Secretaries with their duties were merged into one.

The society then elected their officers for the ensuing year as follows: for President, E. Parmly, of New York. 1st *Vice President*, E. Townsend, of Philadelphia. 2d *Vice President*, J. H. Foster, of New York. 3d *Vice President*, J. A. Cleveland, of Charleston. *Cor. and Rec. Secretary*, C. O. Cone, of Baltimore. *Treasurer*, E. J. Dunning of New York. *Librarian* J. H. Foster. *Publishing Committee*, C. O. Cone, E. J. Dunning, D. R. Parmly. *Executive Council and Examining Committee*, J. H. Foster, E. J. Dunning, E. Parmly, A. C. Hawes, C. A. Harris, H. N. Fenn.

Dr. E. Townsend was appointed to prepare a report on Practical Dentistry for the next annual meeting.

E. Townsend, E. J. Dunning, A. C. Hawes, J. H. Foster and C. O. Cone were appointed to prepare a set of aphorisms (common place truisms upon the different subjects connected with the teeth,) which were called for by the society some years since, which are to be printed and furnished to the members.

The back numbers of the American Journal, in the possession of the society, were ordered to be distributed equally among the three last editors, after supplying all who are subscribers to the tenth volume, and members of the society, with enough to make up their complete sets.

The Committee of investigation appointed on motion of Dr. Dwinelle, at the last meeting, reported that, after a full examination of the case, they found no cause of action against the individual implicated, and that he stands fully vindicated before the society—which report was adopted.

(Considerable time was here spent in altering or correcting the minutes

of the last meeting, concerning some personal matters between the above individual and the society. As the report of this portion of the proceedings is not definite or of any particular interest, we omit the whole.)

The Committee on Dental Literature was continued, to report at the next meeting.

Dr. S. P. Hulihen was continued a committee to prepare an address for the public, and to report at the next meeting.

The resolution accepting the resignation of J. & E. G. Tucker was rescinded.

Drs. L. S. Parmly, N. A. Fisher, J. B. Rich and C. Merrit tendered their resignations which were accepted, and the two former elected honorary members. E. D. Wheeler of Murfreesborough, Ten., and J. D. White of Philadelphia, were elected members of the society.

Dr. J. H. Foster was elected to deliver the opening address, and several members to read essays before the society at its next meeting, which is to take place at Philadelphia.

Dr. A. Hill exhibited several plates for artificial teeth deposited by the electrotype process. Dr. G. E. Hawes also exhibited and explained (by request) his method of inserting teeth on tin bases and also his sectional flask.

The Society also passed a complimentary resolution endorsing Dr. L. S. Parmly's system of Dental Hygiene for the preservation of the teeth.

(The above abstract has been made from the American Journal and would have been published earlier but for the delay of that work).

LETTER TO DR. E. PARMLY.

New York, December 28th, 1850.

DR. ELEAZAR PARMLY—

Dear Sir: I take the liberty of addressing this letter to you, in order to correct a misapprehension of yours, more especially with reference to the Society of Dental Surgeons of the State of New York.

During an accidental interview I had with you, the subject of the use of amalgam came up, and you stated freely, and without reserve, that you had no confidence in the "professional honesty" of those dentists who use amalgam as the best filling for teeth. You also stated that the Society of Dental Surgeons of the State of New York "was formed

for, and is, an amalgam society," and that its members were "amalgam dentists."

From the distinguished position you occupy as a dentist, and from your association with the profession so generally, statements emanating from yourself gain equal publicity, whether based upon facts or founded in error. I have been a member of the State Society since its formation, and I have attended all the meetings, and I can positively assert that amalgam or any other preparation of mercury has never been approved of, or recommended by the society for the purpose of filling teeth. It is true that a committee was appointed to take the subject of amalgam into consideration, and to report upon its use, and the best method of preparing it, but no report has yet been made.

Since those notorious swindlers the Crawcows introduced amalgam, or what they termed the "Royal Mineral succedaneum," I supposed it had been condemned by every scientific dentist *as an ordinary filling for the teeth*. A few years since, however, when the amalgam controversy took place, several dentists of reputation contended that amalgam could be employed as a judicious and proper filling for the teeth, and at that time you assumed your original position, that any preparation in which mercury formed a constituent part, ought not to be introduced into the mouth as a filling for teeth. I was however, determined to test the utility of amalgam in my own practice, and I did so to the fullest extent, and I came to the conclusion that it is far inferior to gold, tin, or even lead.

I occasionally use amalgam prepared of pure materials, and then cleansed from the impurities which result from chemical union. On the sides of teeth we often find cavities of such a shape, that nothing but a plastic substance can be introduced with any degree of success; on the necks of teeth also which have been worn away by clasps, the original shape can be restored by the use of amalgam, and the clasps worn as before for years without any further loss of such teeth.

Yours,

HARVEY BURDELL,
362 Broadway.

Comments upon the above.

In 1844 or 1845 an association of dentists was formed of a strictly private character. A constitution adopted and several meetings held, but owing to causes not necessary now to specify; it soon died a natural death.

In August 1847, the American Society of Dental Surgeons expelled several of their members for non-conformity to its arbitrary mandate,

and among them were two much respected dentists residing in the city of New York. There were several others here who sympathized with them in their persecution, and who were disgusted with the high-handed proscriptive course pursued by the said society. Soon after these proceedings these gentlemen came together, and again discussed the propriety of forming a State, or City society, and after several of their discussions, a formal meeting of the dentists was called, to take into consideration the propriety of forming a state society.

Several expressed their conviction that this was an unfavorable time to form a society, as owing to the expulsion from the *anti-amalgam* Society, this would be branded as an *amalgam* Society; but it was argued by others that this would be avoided by inviting all to take part in its formation. Nay, farther, several of the leading members, wisely, we think, agreed to postpone the discussion of that subject for several years, until the article should be more generally approved of, or condemned, and until the proceedings of the American Society had been partially forgotten.

This meeting decided that it was expedient to form such a society, and agreed that it should be done by a convention, to which all the dentists in the state should be invited. The convention met in due time, and formed a society. At that convention there were present both amalgam and anti-amalgam dentists. The chairman of the committee appointed to draft the constitution was one of the strongest anti-amalgamites in the American Society. From that time to the present the New York Society has not touched the subject of amalgam, except to appoint the committee alluded to above, by Dr. Burdell. It was truly remarked at a late meeting, that if the New York Society was an amalgam Society, it was because it was founded upon the principle of *amalgamating* good and bad dentists, that, if possible, the latter might be improved by associating with the former. This much in justice to the Society of Dental Surgeons of the State of New York.

EDITOR RECORDER.

THE AMALGAM PLEDGE RESCINDED.

At length we have the full report of the committee appointed by the American Society of Dental Surgeons, at its special meeting in Baltimore, in March 1850, to consider and report upon the propriety of rescinding the amalgam pledge. That report is understood to have

been written by the chairman of the committee, Dr. E. Townsend of Philadelphia, and was read by him before the society at its last meeting, in August.

From the well known liberal sentiments of Dr. Townsend, as expressed in his writings in favor of freedom of opinion and corresponding freedom of action, we confess that we did expect from him something more than is contained in this report. We expected that he would not only recommend the repeal of the resolutions, enforcing subscription to the pledge and protest against the use of amalgam, under the penalty of expulsion, but, also the resolutions expelling members for refusing to obey that arbitrary mandate of the society. What can be more natural and consistent, on repealing a penalty which has been attached to certain actions than to pardon those who are suffering under it? this would restore to membership those whose only crime was refusing to sign the protest, expelled under the B ("Bowie Knife") resolution. And again, if a church, a debating society or any other voluntary association were to pass a resolution making certain acts improper, and afterwards affix to them the penalty of expulsion, on the repeal of that penalty, should not those who had been expelled under it be reinstated in their membership, and have a right to defend themselves against the charge of impropriety under the constitution? This would also restore those who not only refused to sign the pledge, but also persisted in using the prescribed article, expelled under resolution A. ("Axe"). To our mind this seems but a simple act of justice and fair play: but we have long since ceased to look to the controlling clique in the American Society for any thing like a full measure of justice, honor or fair play.

We can fully sympathize with Dr. Townsend, considering the position in which he was placed. He was surrounded in the Society, and associated in the committee, with those who saw as clearly as himself the injury which had been done to the society by these unwise anti-amalgam proceedings, and who were as anxious as himself to relieve the society from the embarrassment under which it was placed by their own injudicious conduct; but they had not magnanimity enough to acknowledge their error and do justice to those whom they had injured. "We have no objections," said they, "to the rescinding of the pledge, but *we don't acknowledge that we have done wrong.*" "Let us get rid of this 'gag,' so that we may make some new members, and keep those that we have got, but don't let us take back those who have been expelled, lest they claim a victory, and crow over us. This would make it more difficult to manage and put them down next time they stood up

for their natural and unalienable rights." These were the sentiments entertained by the majority, if not expressed, and under these circumstances, it is not strange that Dr. Townsend, determined on the rescision of the pledge, should feel compelled to throw sophistical dust in the eyes of these sapient gentlemen in order to blind them until he could accomplish his object, and, perhaps he felt that it was best to start first with a small "omnibus," and with a single passenger, as by employing too large a one, or crowding it too full, there would be more danger of capsizing and spilling the whole. Be this as it may we are glad for the honor and respectability of our profession, that the American Society has backed out of the position which it assumed of dictating to its members and controlling them in matters of opinion, under the penalty of expulsion.

There are many positions in Dr. Townsend's Report which are certainly open to criticism; but as our pages are limited, and as it has accomplished its end for good, we shall not at this time attempt a full review of it. There are one or two points however, which we cannot pass over without noticing, such for instance as the following.

"In every branch of science and art, in every department of practical affairs, there are representative men—men who, without usurpation, without any formal design, almost without even the consciousness of the fact, virtually legislate for their class. They are rulers and patterns by the highest right, the divine right of fitness. In emergencies these men are sure to take the direction and responsibility of affairs" *

* * * "The criterion by which such actions are to be judged, is the issue and the end which is attained."

Applying the first extract above to the men who took the lead against amalgam, and judging them by the criterion of the end which they attained, and what opinion shall we form of their "divine right of fitness?" The avowed object which they had in view was the extinction of amalgam in the practice of dentistry and the end has been that there are now but few dentists, from Maine to California, who do not occasionally use it in their practice. The sale of materials for making it is greater than ever, the public demand it and dentists are compelled to use it, even the patients of those who are most opposed to it, often go to others and have it put in because they know of so many cases in which it has been useful and none in which it has done injury—yet, in the face of all these facts, the committee "propose the repeal of the resolutions which enforce the amalgam pledge, in the persuasion that it has fulfilled its office, and served its turn, and may, therefore, be honorably discharged from

service.”* One is disposed to ask *what* office this amalgam pledge has filled, and *what* turn it has served which entitles it to such honorable (?) discharge? Why, it has filled the office of executioner, wielding the “axe” and the “bowie-knife,” and it has served to *turn* out several very obnoxious members who obstinately refused to sacrifice their own convictions at the shrine of the Golden Calf, let it, therefore, be honorably discharged,—this is glory enough!

Again,—“*after* the battle, the only question remaining, really worthy of general concern, is how the peace may be adjusted and its great interests be best secured. The combatants must not indulge their spite by trampling on the dead and killing the *cripples*, after the conflict is fairly over; in other words, a high debate, made necessary on both sides by sentiments of honor and duty, must be protected from descending into the gossip of a personal wrangle, after the unhappy question of difference itself is settled.”

No one would be more gratified than ourselves to see a general peace negotiated between the combatants; but it is hard to forget old animosities, especially while smarting under wrongs which have been inflicted by our oppressors. The majority were guilty of injustice in the act of expulsion, for opinion's sake, and several members who acted with that majority were guilty of committing a greater wrong, adding insult to injury by causing to be published in the public prints that dentists using amalgam in their practice were professionally dishonest. If the ghosts of their offences occasionally rise up before the authors of this insulting, and scandalous circular, they ought not to be surprised, if they wish to exorcise them, let them do justice to the injured and our word for it a durable peace will be established.

Although not a member of the American Society we have never lost our respect for the great body of the members. We are glad there was one who had courage to stand up like a man and advocate the full measure of justice, and contend that all the proceedings under the amalgam resolutions should be rescinded. We allude to JOHN B. RICH. No man in the society was more efficient than Dr. Rich in procuring the passage of those resolutions, and, as he says, having been convinced of his error, he was determined to retrieve himself from the false step which he had taken; this he has done, and as the other members would not come up to what he conceived to be his and their duty, with his characteristic open, straight-forward way of doing business, he refused

* Says the editor of the American Journal, “they were based (that is the reasons for repeal) upon the belief that the resolutions had accomplished the object for which they were designed, and that there no longer existed any reason for their enforcement.”

to have anything more to do with them, and at once resigned. Now, if this were the only honest act of his life, we would still give him credit for it, and exclaim all honor to John B. Rich! the man who, on this subject, "had rather be right than be president" of the American Society.

We do not despair of the society yet, there is manliness and dignity among the members, and when a few more of them have conquered their prejudices, it will devote its energies to the honor and usefulness of our profession, and stop this truckling to the wishes of individuals, at the expense of the sacrifice of well established principles.*

We trust that the day is not far distant when our profession will be united and move forward to accomplish the mission for which it was designed, viz.: to prevent deformity and pain, and relieve the suffering and afflicted,

"To wipe from beauties' eyes the tears that burn,
And bid her roses and her smiles return."

ANSWERS TO CORRESPONDENTS.

"Can you inform me of the kind of metal used as fusible metal on the tin base for teeth, and referred to in the October number of the Recorder? Also, can tin, or this fusible metal referred to, be gilded by the common galvanic process? If not, how is it done? Please inform through the Recorder or otherwise, and much oblige some of the fraternity who are not well posted up on these points." Yours, &c., H. A. P.

Our correspondent will find the recipe for "fusible metal," in No. 3, Vol. 4, Dental Recorder, also directions for combining the materials. Both this metal and tin can be coated with gold by the galvanic process. For about eight dollars any one may procure from Dr. Chilton the apparatus and solutions for gilding and silvering plates.

"Do inform me where I can obtain No. 1 amalgam, price, &c. Not Hill's." H. J. R.

We believe that the "amalgamites" have come to the conclusion that the best amalgam (A. No. 1) is made by adding chemically pure mercury to about equal proportions of precepitated silver, and fine (that is pure) silver filings. After triturating them thoroughly in a wedgwood mortar, and washing, add a small piece, say about one twelfth by weight, of tin foil. All these Materials may be obtained from Messrs. Jones, White & Co., those wicked rogues, who keep a constant supply of the purest materials for compounding this "*poisonous substance*."

* If proof is wanting that the society has deserted its own expressed resolutions, and the provisions of its constitution, enough can be given from its own records.

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No. 4

PRACTICAL DISCUSSIONS ON FILLING TEETH.---WITH REMARKS.

The operation of capping an exposed dental pulp is naturally suggested to the mind of every dentist on first exposing it with the excavator, hence almost every operator has tried the experiment, and as we had supposed abandoned it as entirely unsuccessful. In this, however, it seems we were mistaken, for from the discussion which we are now republishing, it appears that many of the members of the American Society are still continuing it. We have often tried capping, and filling over exposed nerves without capping, but in every case where we have had an opportunity to thoroughly examine the tooth, after the operation, we have found it unsuccessful. Either the pain has made it necessary to remove the filling, and destroy the nerve, or the dark livid hue of the tooth has shown that the nerve had died without pain. The following case, related by Dr. Dwinelle, where he removed the filling, two years after the operation of covering an exposed nerve, and found a new deposit of bone had actually been made over the exposed and wounded nerve, is the first successful experiment of the kind that we have ever read of. If Dr. Dwinelle was not deceived, in supposing that he had wounded the nerve, this operation should be repeated and tried by every practicing dentist, but if this case was such as described by Dr. Dwinelle in Vol. 7, p. 375, of the American Journal, where it was not "actual decay," but only "that part of a tooth which has lost a portion of its lime, and with it a degree of its density" which lay over the nerve, then the case is a very different one, as the fact might be that the nerve was never exposed. Admitting, however, that in this case the nerve was actually exposed, as in all courtesy we are disposed to do—and the more so as Dr. Goddard of Boston has also borne his testimony to this deposit of new bone over exposed nerves—and we repeat that the experiment is worth trying over. We hope that it may be faithfully tested by all our readers, and the results communicated to the Recorder for the benefit of the profession.

"*Dr. Foster* did not conceive it to be important, in making a cap to cover an exposed nerve, that the edges should be made round and

smooth, but rather that they should be left rough and uneven, and so adapted to the parts of the cavity upon which they were to rest, particular care being taken that the size and form are in due proportion, as to secure it in its proper position. He had been successful, in a large majority of cases, in preserving the tooth alive. Whenever the death of the nerve ensues, he attributes it more to irritation from heat and cold, than from pressure; he had come to this conclusion from the fact that, in greatly increased proportion, he had lately been successful in treating these cases, owing, as he believes, to this precaution, viz. placing some substance, which is a non-conductor, between the exposed nerve and the concave surface of the gold cap. For this purpose he had used some of Dr. Hill's composition, warming it, and compressing a very small portion with a convex instrument, into the concavity of the cap. Cases of inflammation and death of the nerve under this treatment had rarely occurred, and he had practiced it for several months past. He could not call to mind more than two or three unsuccessful operations. Lead cannot be placed in a cavity of sufficient thickness to prevent its bending under the force applied to secure a solid filling. He concurred with Dr. Harris, that no circumstances could warrant the filling of a tooth in the ordinary way, when the nerve is exposed, or nearly so. Inflammation and death of the nerve, as well as intense suffering, must inevitably attend such an operation. He believed the nerve of a tooth could not be exposed so as to be touched in the slightest degree in excavating a cavity, even when the diseased portion was removed with the utmost care, without bleeding.

"*Dr. Westcott* concurred with the gentleman in the last remark. The cavity of the nerve takes the form of the crown of the tooth, so that it comes to smaller points. In excavating a cavity, you generally first ascertain that you have struck the nerve, by a small streak of blood from one of these needle-points of the cavity of the nerve. Whenever this happened in excavating, whether from necessity or accident, he considered it a great misfortune, almost certainly involving the ultimate destruction of the nerve.

"*Dr. Dwinelle*.—I had formerly entertained the opinion, that to expose the nerve-cavity was to warrant the destruction of the nerve. For the last two years and a half, my attention has been particularly directed towards restoring teeth whose nervous pulp had been exposed. I used sometimes to encounter the little oozing of blood which Dr. Westcott mentioned, and it gave me the same apprehensions. Whenever I have done so, I have considered the immediate or ultimate destruction of the nerve as certain. Of late, however, I have attempted to save the nerves whose membranes were broken, and have generally succeeded. About two years ago, I was filling a tooth for a young lady, when I discovered that I had cut off a minute corner of the nerve. I immediately dipped a piece of cotton in a strong solution of camphor, placed it in the cavity, and checked the blood. I filled the tooth carefully, watched it afterwards, and believed it did not die. She suffered no pain after the operation. I felt so interested in the operation, that about six weeks ago I

took out the filling, and found the cavity sound and healthy. I even went so far as to excavate around the point of the nerve, and found that there had actually been a deposit of bone over the exposed nerve. This will not appear incredible, when we reflect that in aged persons the nerve-cavities are frequently filled with bone. With regard to Koecker's operation of using lead caps, I concur with Dr. Foster, that they may be so bent down by pressure in filling, as to come in contact with the nerve, and thereby become as objectionable and ruinous to the vitality of the tooth as would be gold itself, except, perhaps, so far as lead may have the advantage of having the medicinal quality of being anti-inflammatory, gold being wholly inert. I have found the various preparations of lead very useful in subduing inflammation of the bone and nerves of the teeth.

"*Dr. Dwinelle* suggested the application of some non-conductor under the cap, next to the nerve, to prevent cold or heat from affecting it—floss silk for instance.

"*Dr. Foster* said that he had mentioned, in his preceding remarks, that he had applied Dr. Hill's composition, which was a non-conductor.

"*Dr. Dwinelle* mentioned that Dr. Maynard had performed a like operation, applying beeswax under the cap.

"*Dr. Cleveland.*—With regard to using a non-conductor, I will state that I have used asbestos for nearly three years. It was first presented to my notice in the office of a gentleman of Havana. I had been with him about a month, when one day he was filling some teeth in which he used asbestos. He turned to me and asked if I ever used the article.—I said I had not, but now saw the utility of it. I have since used it in probably twenty cases, and cannot call to mind one single instance where I had to remove it.

"*Dr. Harris.*—There is an article in the first volume of the American Journal of Dental Science, by Dr. Solyman Brown, in which asbestos is recommended for this purpose.

"*Dr. Rich* had tried the article, and it proved a failure.

"*Dr. C. O. Cone* rose to present some remarks of Dr. Nelson on this subject, which are contained in his report on practical dentistry; the extract read, was to the effect that oiled silk at the bottom of the cavity was a sufficient non-conductor.

"*Dr. Rich.*—Recommended gutta percha as a non-conductor. A thin layer to be placed between the bottom of the cavity and the filling. He said he had known many valuable teeth lose their vitality from the sudden transmission of caloric; he was confident that this was prevented. He had lately used gutta percha for that purpose, with entire success.—In several cases in which it was used, there was but a very thin partition of bone between the external cavity and the nerve. In his opinion, it was superior to asbestos, or any other substance which had been used for that purpose.

"*Dr. Harris* suggested a solution of gutta percha in chloroform, the latter he thought would allay the irritation, and as it would evaporate

immediately, a thin layer of the gutta percha would adhere firmly to the walls of the tooth; this was the suggestion of the moment, but he was of opinion it might be applied in this way with advantage.

"*Dr. Nelson* stated that he had sometimes exposed the nerve without bleeding, but it was, he believed, owing to morbid action, the diseased bone being separated from the membrane.

"*Dr. Rich* thought a great deal depended upon the delicacy of touch in the operation, whether hemorrhage took place or not.

"*Dr. Cleveland* remarked, that since the introduction of chloroform he had made some experiments with it in excavating tender cavities. He thought to himself, if chloroform will destroy nervous sensation in the whole body, why will it not allay the irritation if applied to the tooth.—The experiment was tried and with success, since which time he had resorted to chloroform, and with invariable success.

"*Dr. Harris* corroborated the testimony of its utility by a number of experiments which he had made.

"*Dr. Rich* stated that the discovery of chloroform had scarcely been published before an advertisement appeared in a New York paper of a combination of chloroform and something else to prevent tooth-ache.

"The society then adjourned, intending to resume the conversation on the following day by taking up the 'best method of applying arsenic.'"

The application of some non-conducting substance near the nerve in tender teeth we have found of very great service. For many years tin or lead was used for this purpose; but this was little better than gold, and subjected the operator to suspicions of dishonesty. For several years we have placed thin pieces of leather, oiled silk, (by the suggestion of *Dr. Nelson*), gutta percha, and cork, and have found that either one has answered the purpose. In several cases we had to remove gold fillings and apply something of this kind, until we finally adopted it as a general practice where much pain, or sensitiveness to hot or cold applications, was to be anticipated. This can generally be known before filling a tooth, from its sensitiveness to the air after being excavated, from the tenderness of the bone, and often from the previous experience of the patient.

Third Day.

"*Dr. Foster*.—I did not experiment with arsenic until a long time after it was used; all that I heard respecting its effects influenced me against it. It was about two years after it became a general agent for the purpose of destroying nerves that I first tried it and according to the usual method. I applied it in a few cases, but the results were anything but satisfactory, and after a few trials I abandoned it. Soon after *Dr. Maynard* returned from Europe, meeting him one day in New York, and mentioning this subject, he remarked that he would when an opportunity offered, give me an insight into his peculiar method of using it. This information I never have obtained any farther than to know

that he was using it in smaller proportions than others did. I commenced trying it upon this principle, in about the proportion of two grains of arsenic, to eight of morphine, and have generally succeeded in destroying the nerve, keeping it in ten or twelve hours without much pain in some cases, and without any in others. When pain has ensued, I think it attributable to the pressure of the substance used to keep the arsenic in the cavity, and that a cap placed over it would prevent suffering.

“*Dr. Westcott.*—As I have heretofore given my views, and particularly my objections in the Journal, in regard to the use of arsenic, for the purpose of destroying nerves, it is but justice to myself, to state that time and the information derived from others, who had been more successful in its employment, have somewhat modified the opinions set forth in the article to which I have alluded. This was written in the summer of 1845, and up to this time my own experience had been such as to elicit the opinions therein set forth. I need not here repeat the objections I then believed lay against its use.

“I now only desire to say that I, at the present time, look upon the employment of this substance somewhat more favorably, or, in other words, I have to some extent, been enabled to overcome many of the objections then entertained, by adopting the mode of operating of one who had bestowed very great thought and attention to this very important branch of our profession—that of saving teeth after the nerve had been exposed. The practitioner to whom I allude is Dr. E. Maynard, of Washington City.

“I had the pleasure in the winter of '46-'47 of not only examining many operations which he had previously performed, but in one case witnessing the performance, and I confess I obtained some new ideas upon this subject which have been of great value to me in my subsequent practice. For nearly two years previous to the time of writing the article alluded to, I had utterly refused to use arsenic in any case, but since comparing notes with Dr. Maynard, I have, though I must say very cautiously, used it in many cases, and in a majority of them with success so far as I now know. I described briefly his ‘modus operandi’ in an article entitled ‘a Visit to Washington,’ and which was published in the March number of the Journal, 1847; and as most of the members present have doubtless seen that article, I need not describe it here.

“About a year and a half has elapsed since, during which time I have continued to experiment with this substance, yet at no time with as satisfactory results as I could wish. If the only object was to avoid, or to diminish the pain of destroying nerves, then arsenic deserves the highest eulogy, as my own experience proves; pain scarce ever need be inflicted in destroying a nerve. But in reference to the ultimate result, the health and safety of the tooth, it has been by no means as certain, as destroying the nerve at once with an instrument. However humiliating it may be, I am bound to say that in my hands quite a large proportion of these operations, where arsenic was employed, have resulted

in the formation of alveolar abscesses, and I think the proportion is at least three to one, as compared to the unfavorable cases, where the nerve was removed by an instrument. It is indeed a very rare occurrence to have abscess result from removing a healthy nerve with an instrument. It is frequently the misfortune of the dentist to be only able to choose between *evils*, and fortunate is he who always selects the least. In this light, and in this light alone, can we view the operation of destroying nerves by whatever method it is effected, for at best it so far weakens the vitality of the tooth as to render it *in all cases liable* to prove uncongenial to the surrounding parts. But even admitting this contingency to pertain to every case, yet it often is true that the destruction of the nerve, is by far a less evil than extraction, and still less than would result by leaving the tooth with an exposed nerve.

“*Dr. Harris.*—Did not know that he could throw any additional light on this subject. Soon after Dr. Spooner of New York published to the world his application of arsenic to exposed dental nerves, he was led to make some experiments with it, which, however, did not induce him to continue the practice very long. But about the year 1839, he began to repeat these experiments, and from that time to 1842 or 1843 had applied it, in perhaps three hundred cases, for destroying the vitality of the pulp previously to removing it, in order to fill the cavity of the tooth. During this time he had an opportunity of examining the results of cases in which arsenic had been used by other practitioners in Baltimore, and other parts of the United States. In at least three out of four cases, alveolar abscesses resulted within from three months to two years. He was again induced to abandon the use of this agent, believing that it rendered the teeth obnoxious to the surrounding parts. After Dr. Westcott's return from Washington, hearing his description of the elegant manner of operating by Dr. Maynard, he was again induced to repeat the operations. Since that time, he had applied arsenic to about twenty teeth, in the mouths of persons whom he felt sure of seeing again, and of ascertaining the result, and he must say, that he had been more successful than he anticipated. He had also filled some eight or ten teeth in which the nervous pulp had previously been destroyed by supuration, after having brought about a healthy action in the parts at the extremity of the roots from which a morbid fluid was secreted. He had thus far succeeded in a majority of these cases. In one case, that of a lady from South Carolina, he filled the pulp-cavities and roots of the upper cuspidati. These teeth had previously given rise to alveolar abscesses. The roots were carefully cleansed and injected with a solution of chloride of soda for three or four successive days, when they were filled. Two weeks after, a small abscess or gum-boil formed over each, which soon broke and discharged. Although the presence of the teeth are productive of a small degree of irritation, they are less hurtful and more useful than artificial teeth. In some three of the other unsuccessful cases, there has been similar small abscesses, but the morbid effects attending them were not sufficient to cause any manifest inconvenience. A few days before he left home, he examined a molar filled by Dr.

Cone. For some two or three weeks after the operation the patient suffered a slight degree of irritation, but it has not subsequently occasioned inconvenience. My manner of applying arsenic, said Dr. H., is simply this: I take one grain of arsenic and one of sulphate of morphine, mix them together and divide into thirty powders, I then moisten a small particle of cotton with water, sometimes with creosote, and sometimes with laudanum and absorb as much of this minute powder as I can upon the cotton. Having previously exposed the nerve, I put this in contact with it, and then seal up the cavity with wax. I rarely permit it to remain more than seven hours.

“Dr. Duinelle.—When I commenced the practice of my profession, for what I then considered good and substantial reasons, I was opposed to the use of arsenic. My prejudice arose from the fact of an acquaintance of mine having been killed by a quack, in treating a cancer with arsenic; also from the fact that several of my friends were laboring under disease of the jaw and alveolar abscesses, occasioned by arsenic having been applied to their teeth. I ultimately found that a substance more powerful than creosote was desirable, if safe, and I commenced experimenting with arsenic. I used it with caution, in minute quantities, sealing up the cavities with wax and cotton. I was not always successful. At times its use was wholly unaccompanied with pain, and with the best results; experience rendered me more perfect and successful, but I was never decidedly confirmed in the use of it, till I had a conversation with Dr. Maynard on the subject. My experiments with this article, since that time, have been almost invariably successful. When it has produced alveolar abscess, they were but slight, making usually but one discharge, and then healing up permanently. But after all, I prefer the method of destroying nerves with instruments. It is my conviction, that in most cases an alveolar abscess is less likely to ensue when you take the nerve out bodily at once, and fill the internal cavity with gold, than when you give it the more protracted treatment with arsenic. I finally made up my mind seldom to use arsenic, and then in the manner described. I never mix creosote and morphine in any relative proportions. I do not let it remain more than twenty-four hours at a time, being afraid of its poisoning influence extending beyond the nerve.”

It is very satisfactory to those of us who have steadily used arsenic since its first introduction, through good and through evil report, to see others approving and adopting the practice. More than five years ago we became convinced that arsenic was greatly abused in the hands of dentists by using it in excess. We then found that the smallest possible quantity which could be applied to the dental pulp, would so paralyze it that it could be removed with but trifling pain. In the Dental Recorder for July, 1847, we described our method of using it, the success which had attended it, and then ventured to express the opinion that the operation of destroying nerves with it would succeed as well in the

hands of Dr. Westcott as it had in those of Dr. Maynard, if he would but give it a fair trial. Since that time we have continued to use arsenic for destroying the nerves of all those teeth which we could not, from any cause, extract with the probe before applying it, and our success has been such as to increase our confidence in it from year to year. One sixteenth of a grain is considered a safe alopathic dose of arsenic, but for destroying the nerve of a tooth we never use more than the one hundredth part, and oftener not over the one hundred and fiftyeth part of a grain. In these minute doses we have used it by the recommendation of homœopathic physicians, and they have not been able to discover any subsequent bad effects from it. Upon the subject of the use of arsenic we entertain the same views that we do with regard to amalgam, the abuse of either is no just cause why an honest and skillful dentist should refuse to use it when any peculiar case is found in which it may be useful. The same change of opinion which some of the members acknowledge has taken place in their minds in reference to the use of arsenic is now going on with regard to the filling of teeth with amalgam, and we now venture the opinion that within ten years those who have opposed it most, will, if they continue in practice, employ this article in "certain cases." We know that they are honest and believe that they cannot much longer continue to nurse their prejudice against an article which has been more sinned against than sinning.

OSSIFICATION OF THE DENTAL PULP.

Central Village, Dec. 31st, 1850.

MR. EDITOR: Having read with considerable interest the case of osseous deposit in November's Recorder, I beg leave through your journal to make a few remarks upon it, and to relate a case in my practice which may interest your readers.

I will say that I considered the remarks appended by you, as very appropriate, and have no doubt if the writer had informed us what that mild application was he would have written arsenous acid; as it is well known that this article, united with some substance which will impede its escharotic action, (as sulphate of morphia,) and will so combine with the animal matter of the nervous pulp as to completely petrify it, for I would use this term in preference to deposit as it appears to me that this is not strictly an osseous deposit but a petrification of the pulp itself.

Now there is, sometimes, such deposit within the cavity of the tooth

pulp, as in case of old persons whose teeth have been worn down by mastication or otherwise; but such deposit is by slow degrees, and an act of nature to make up for the external waste, and in so doing to prevent the suffering which would otherwise come upon her. I have seen several cases in which the whole pulp cavity was perfectly filled with such deposition.

I have seen many instances like the above named and several cases of such deposit in teeth which had been attacked by caries, but which had progressed very slowly, and in two or three cases filled such teeth, whose crowns were nearly gone, having decayed below the bed of the nerve pulp, whose place was filled with such bone, the nerve undoubtedly having receded just as fast and as far as the work of deposition had gone on, and rendered them (the teeth) very useful.

The theory is this, that as the substance of the tooth is worn away, or as caries approaches the nerve and renders it sensitive to heat, cold, &c nature, to relieve herself of these inconveniences, commences the work of secreting this deposit and that the substance of the nerve is taken up by absorption gradually as bone is deposited.

But in the case under consideration it would seem that the substance of the pulp itself was turned to stone by a chemical action in a very brief space of time; but to the story.

Mr. H. called on me the 10th inst. to have the first and second left inferior molar examined, which he said had been filled about two or three weeks before, by a humbug Dentist, who was stopping in a village about two miles from this;* the fillings in these teeth had dropped out in a few days, and he had experienced a dull grumbling pain at times, and an exceedingly uneasy sensation ever since they were filled. He informed me that the dentist had applied arsenic and morphine to kill the exposed nerves in these teeth, and that it made them extremely sore for several days.

I found the gums much inflamed and swollen around them, the first evidently ulcerating, and extracted it, finding at the roots an ulcer sore; the nerve cavity in roots filled with pus, and in pulp cavity a dense clear substance occupying about three-fourths of this space, and surrounded

* This man was one of the greatest imposters which I have met with. He filled teeth and performed other operations at such a price as he could get; if he could not get \$1.00 for a gold filling he would take 50 cents, and was so skilled in the art that he would fill cavities in fifteen minutes which would have taken me from one to two hours, but scarcely any of his fillings remain, except in the memory of his patients, although all his operations were by him warranted; but where is he? he's gone and his warrant with him. Oh, how sweet is humbugery in the mouth, but people here have found it terribly bitter in the belly.

by a thin, redish, watery fluid. Some days later the other giving considerable trouble, I extracted that, and found it in similar condition, but the bony portion only about the size of a small pin head.

Yours, &c., A. FULLER.

For the Recorder.

EXTERPATION OF A CANCER FROM THE UPPER JAW.

DR. ALLEN.

Dear Sir: I send you an account of an important surgical operation for *schirrous cancer* performed in Johnstown, Fulton Co., by professor March of Albany. The patient, Mr. R., had an operation performed for the same disease, on the 26th day of March last, in the Mines, 30 miles distant from Sacramento City, California, by Dr. Thomas, formerly of Boston, on which occasion a tumor weighing some *two ounces*, was removed from the right cheek. The wound healed up and the disease was gone until the month of September last, when it again appeared in a more violent form, and Mr. R. very reluctantly made up his mind to return home with the view of having a second and more thorough operation performed for the same disease. During the passage from San Francisco to New York, the fangous matter accumulated with great rapidity, owing to the influence of the salt water. Indeed, so rapidly did the tumor increase, that he was under the painful necessity of having portions of fangous matter removed on three several occasions during the voyage, so that he might be able to take his food. During each of these operations the blood flowed profusely, and consequently at the time of the operation on the 17th of December last, the patient was very much reduced and debilitated.

The tumor removed weighed, *fourteen and a half ounces*. The entire right side of the upper jaw, together with the cheek bone was removed, leaving a horrid vacuum, and during this period of intense agony there was no binding of the patient nor any applications of chloroform or brandy to fortify the nervous system. There was no flinching or fainting on the part of the patient, and though he must have been keenly alive to every pang of suffering, his iron will bore him successfully through the agonizing scene.

The following is a description of the operation, furnished by one of the attending surgeons.

A semilunar incision was made from the commissure of the lips to the middle of the space between the external canthus of the eye and

the point of the ear, and the flap rapidly dissected off the bones, and reverted with the undivided upper lip upon the forehead, where it was held by the two hands of an assistant.

The zygomatic process, the external angle of the orbit, the nasal process of the upper maxillary, and the palatine arch between the second incisor, and canine teeth, were successfully divided, and the fat of the orbit carefully detached from the floor of the orbit without injury to the eye ball.

In the next stage of the operation the surgeon loosened the bones with his left hand, while with a knife in his right hand he detached from above downwards the soft parts on the side of the zygomatic fosse.

In this operation the bones of the cheek, the upper jaw and the floor of the orbit of the eye, back as far as the palate, were entirely removed, leaving an open space of a frightful appearance.

Dr. March termed it an osteo sarcoma. Its first appearance was between the malar, or cheek bone, and the nose, rather nearer the nose.

The bones with which it was connected were slightly carious.

For the first eight or ten days after the operation, the patient appeared to be doing well, until one day they discovered a return of the tumor, a bunch about the size of a walnut, and in two or three days it increased to the size of a hen's eggs, and commenced bleeding, they succeeded in arresting the hemorrhage temporarily, but it commenced again and he finally died from loss of blood.

J. C. D.

SELECTIONS FROM MEDICAL JOURNALS.

Notes from clinical lectures of Prof. H. J. Bigelow, one of the surgeons to the Massachusetts General Hospital.

Epithelial Disease of Lip.—Commonly called cancer of the lip, and with good reason; for although the affection is by no means identical with cancer, yet it has practically many of its destructive properties. It affects the skin and subjacent cellular tissue, the mucous membrane, and the muscle. The man operated upon on Saturday, was about 52 years of age, healthy, and of a fleshy make. Two years ago he discovered a pimple of the size of a small pea on one side of the free edge of the under lip. A year ago this had attained a double size, and was covered on the buccal margin with a scab of ordinary appearance and of the size of a half dime. This patient had been treated, as such lesions often are, by some cancer doctor with caustic; but ineffectually. I removed the mass by a V shaped incision in the sound tissue, and the edges were approximated by three or four sutures. The great object here is completely to excise the disease; and if this is done, it has little tendency

to return; differing in this respect from true cancer. Now the latter disease may affect the lip as well as other regions, and hence the importance of establishing distinctly the difference between the two diseases, that you may be able with confidence to assure your patient of his probable future. And first let us eliminate the advanced stages of this disease, where the bone is eroded and the glands affected. In such cases extensive plastic operations are sometimes necessary. I have removed the entire lower lip, dissecting the cheeks back to the facial artery of each side, and uniting them when drawn forward upon the median line. In this case the disease returned in the cicatrix a year after. In such cases the vast ulceration and fungoid growth may alter the general appearance of the texture to a degree which may render its appearance, without the microscope, equivocal. But in its early stage the epithelial disease of the lip generally show upon section, as in this case, a dense white opaque color, and often upon minute examination, as here, vertical striæ dividing it into apparent columns, which either terminate at the free labial edge, disintegrating into a paste which furnishes a scab, or may rise above it, to a considerable height. But the microscope leaves no doubt, in the majority of cases. I will not say all cases; for though some observers have no question upon this point, I have not satisfied myself about it. In most cases the field, as in the present instance, shows unequivocal epithelial features. The white caseous mass shows the normal epithelial cells and scales; every irregularity of the latter varying in size and shape; while the distorted cells often attain, with and without nuclei, enormous size. A careful observation also detects little groups of the minute cells in the first period of their growth.

"Such is the common disease 'cancer of the lip,' beginning with a small purple crust or scab, and if not removed, in season, attaining an ulcerated growth, which compromises the life of the individual; perfectly curable at first, but if neglected or tampered with, getting beyond the reach of surgical art."

"*Inflammation of the Gums. "Inflammatory Absorption."*—This patient, whom you have several times examined, has been discharged—a middle-aged man; in whom, without assignable cause, a toothache of the first left incisor, five weeks ago, was followed by pain in the upper jaw, which in a week presented a double ridge of swelled gum almost burying the teeth and supurating freely. The teeth, from the right canine to the left molars, were quite loose; abscesses had formed here and there along the gums, while the face was swelled and œdematous. The treatment consisted of cathartics, free local incisions, astringent washes, and the gum was occasionally touched with muriatic acid. The affection has greatly abated, though the teeth are still far from firm."

"*Fatty Tumor inside of Cheek. Operation.*—This middle-aged woman perceived this tumor 4 years ago. Its position, just inside of the labial commissure under the mucous membrane, is a common one for little sacs containing glairy fluid. This looked like one, and fluctuated; but proved to be common adipose tissue, as large as a chesnut. I removed it with a simple incision. The ether was continued to this pa-

tient sometime after narcotism, and until she snored : her pulse being only reduced a little in frequency. This thorough dose lasted her through the operation. With a common dose, she would soon have partially waked, shut her mouth, groaned and twisted about ; and after vain efforts to get along, we should probably have stopped the operation to give her more ether. As it was, she slept tranquilly through it.

"Disease of Antrum. Operation.—This patient of Dr. Hayward, 32 years old, a year ago perceived a swelling just under the edge of the left orbit. When opened, it discharged pus. Soon an opening formed spontaneously over the second molar, thought to be a gum-boil, but a copious and daily discharge of pus here discredited this idea. The patient applying to a surgeon, a probe was passed into one opening and out of the other, traversing the antrum ; since which, this antrum is said to have been punctured twice, and a seton to have been once passed. Lastly, foetid pus has been and is now blown from the nostril.

"Here is a well-marked affection of the antrum ; and attention may be directed on the one hand to the mucous membrane and bone of the cavity itself, and on the other to the fang of a tooth and abscess of the gum, as the usual causes of such purulent accumulation in this sinus. Here the first pus escaped near the orbit, where there is now a scar ; and the discharge is now foetid ; considerations which direct us to the antrum and to the bone. It is a case difficult of treatment. The patient was desirous of an opening into the cavity, which Dr. Hayward made by boring through the thin shell just above the second molar tooth. Some of you may remember a similar case in my wards last year. Great pain and tension on the left side was then relieved by tapping the antrum in this same place. Pus escaped ; and the patient encouraged by the success, was very desirous to have the other side opened ; there being an uneasy feeling there. I advised him against it, for want of indications ; but subsequently, as the operation is in reality a small affair, yielded to his solicitation. There was no pus, and the jaw swelled largely. In the first instance the opening evacuated pus and was a relief. In the second, it was an injury to a comparatively sound part, and was at once felt. As to the operation, if you do not perforate the socket of a tooth, you find the base of the zygomatic arch above the molars ; incise the mucous membrane freely, and expose the bone ; otherwise the blood is apt to distend the tissues, and make the landmarks obscure. You then bore through the thin bone with any convenient instrument. I have used a three or four square pyramidal point."

"Ossification of the Pulp of the Teeth. DEAR SIR,—Seeing my name in an article copied by you from the Dental Journal, I beg leave to make some explanations in regard to it. Dr. Harris, editor of that Journal, seems to have forgotten the most important part of my statement, which was that I waited until the ossification had taken place before I filled the tooth. My principle is, to excite ossification, as surgeons sometimes do to fractured bones when indolent. And I have succeeded in doing it, in many cases, where the Dental Pulp is healthy, even though wounded. By cleansing the cavity, as if for filling, then

protecting it with cotton from the air, and occasionally removing the cotton and lightly re-scraping the bone, a deposit in time will take place nearly as hard as enamel, when the tooth can be filled and retain its vitality. Twelve years' experience in this operation has proved this fact to me, that, under favorable circumstances, it can be done.

Boston, Dec. 11, 1850.

W. W. CODMAN."

—*Boston Medical and Surgical Journal.*

"*Diseased Antrum.*—W. B.—, aged twelve, a native of Heworth, was admitted (into the Hospital) August 16, with great enlargement of the left cheek, from enormous dilatation of the antrum. The patient had measles three years ago, since which time the present tumor has gradually increased; its distention seems from the feeling, to be caused by fluid."

"Sir John Fife made an incision from the commissure of the mouth, horizontally backwards; another commencing at the same point, directly upwards. He then dissected back the flaps as far as the orbit, first tying the facial artery; then with Hey's saw he cut out a right-angled triangle of bone, exposing the whole of the antrum, which contained two teeth and about four ounces of gelatinous amber-colored fluid, but no organic disease. The swelling has now considerably decreased, and the patient is doing well."

"*On the Dissolving of Teeth in Solution of Sugar.* To the editor of the *Lancet*. SIR—The dissolution of teeth in lactic acid is known, as well as that sugar solution produces "lactic acid" by fermentation. The tooth I used for the experiment was a thoroughly sound one, without the least speck, and nineteen grains in weight. I put it in a solution of six drachms of sugar and three drachms of water, in a temperature of 32°—36°. In three weeks, the tooth lost about seven grains, with a change in the solution, and, in analyzing it, I found that only the carbonate and phosphate of lime were consumed. The part round the crown of the tooth was unchanged. The tooth lost, afterwards, when I put it in diluted hydrochloric acid, all its limy substance in the course of twenty-four hours, with a small influence of carbonic acid. Another tooth which I put in diluted hydrochloric acid lost in twenty-four hours all its limy substance, but under the influence of a great deal of carbonic acid. A tooth remained unchanged in very concentrated camphor solution."

"A tooth, nine grains in weight, put in a solution of half a drachm of oxalic acid and three drachms of water, in a temperature of 32°—36°, lost, in ten days, two grains and a half of its weight. It was found with a white sediment (oxalate of lime) and weighed four grains. The enamel was found quite dissolved; the other part of the tooth was not altered.—T. LINSEY,"

London Lancet.

Remarks.

It is a common opinion among parents and nurses, that sugar, including all kinds of confectionary, is destructive to the teeth; but this den-

tists have generally thought to be a mistake. Dr. A. Westcott, in a *Dissertation on Dental Caries* read before the American Society of Dental Surgeons, states the following as the result of numerous experiments upon this subject, viz: "Vegetable substances have no effect upon the teeth until after fermentation takes place, but all of them capable of acetic fermentation act readily after this acid is formed."

From the result of the above experiment it appears that the solution of sugar either underwent fermentation at a low degree of temperature near the freezing point,* or that it contains a portion of free acid capable of dissolving the lime in the enamel of a tooth. The latter is most probably the case. Dr. Westcott also found that "raisins so corroded the enamel in twenty-four hours that its surface presented the appearance and was of the consistency of chalk." This effect he seems unable to account for. May it not be caused by the free acid contained in the fruit? If not, it is probably owing to a partial fermentation which had taken place during the drying of the grape and which generated an acid capable of attacking the tooth.

We do not apprehend that any injury can be done to the teeth, however, by eating either confectionary or preserved fruits if a proper degree of cleanliness be observed; but where the teeth are not thoroughly cleansed after indulging in luxuries of this kind portions of the sugar and fruits remain, lodged around and between the teeth, causing the fermentative process to commence and forming this acid which is so destructive to the teeth.

This is no doubt one prolific cause of the decay of teeth in young persons, who, of all others, are most apt to neglect them.

"*A New Property of Chloroform.*—*Academy of Sciences, Paris, Nov. 11, 1850.*—M. AUGEND, of Constantinople, transmitted a memoir, in which he pointed out a property that places a very distinct line of demarcation between chloroform and ether; this is, its power of disinfecting organic matters. M. Augend related the following experiment:

"Take three wide-mouthed flasks, the first containing a few drops of

* "The indispensable requisites to acetous fermentation are,—

- "1. A fluid containing wine, or alcohol and water.
- "2. A temperature of from 60° to 80°; the fermentation is languid at 50°, and well at 32°, above 80° it is very active.
- "3. A ferment, either contained in the liquid or added, or both.
- "4. A free contact of oxygen gas or of the air; for the acidity of wine is usually produced by oxygen and the other circumstances are only auxiliary."

"It sometimes takes place without the previous production of alcohol and frequently in substances not saccharine."—*Silliman's Chemistry.*

It will be seen that all these requisites exist in an unclean mouth, and undoubtedly cause the commencement of the caries of the teeth.

ether, the second a few drops of chloroform, the third left empty. If in each of these a piece of beef be placed, and the flasks be closed and left undisturbed in the summer season, the following circumstances will be observed:—The meat, which was of a reddish brown color in its natural state, changed instantly to a vermillion-red in the mixture of chloroform and air, while in the ether vapor no change occurred. At the end of a week the difference was greater still; the meat in the flask containing atmospheric air was but little changed in its aspect; that in chloroform had acquired the appearance of boiled meat. On opening the flasks it was found that the meat, both in the atmospheric air and in the ether vapor, was putrefied, and emitted a most offensive odor; while that in the mixture of chloroform and air had the sweetish taste and odor of chloroform.

“M. Augend has ascertained that 1-200th of chloroform completely prevents the putrefaction of fresh meat. The most apparent action of the chloroform is the rapidity with which it traverses the thickest tissues, and causes an immediate contraction of their parenchyma, with consequent exudation of the fluids of the structure experimented upon. The author further dwelt upon the value, in a medico-legal point of view, that chloroform thus possesses in arresting putrefaction.—*Med. Gaz.*

“*Death from Chloroform.*—Dr. Aschendorf states that a child, one year old, had been operated upon for a nævus under the influence of chloroform, with apparent success, when, on the child being removed from the table, its head fell back, and it instantly died in a state of convulsion. The quantity used had been six drops in the first instance, and a second application of three drops in some tow placed in a cup.”—*Med. Gaz., from Caspar's Wochenschrift.*

TREATMENT OF EXPOSED DENTAL PULP.

By H. H. NUTZ, Dental Surgeon, Philadelphia.

During the past few years no subject has given rise to so much discussion among dentists, and been so prolific in furnishing essays, dissertations, and articles for dental societies and periodicals, as that of the treatment of exposed dental nerves.

We have endeavored to place before our readers every new thing which has been presented, and thought we had got through with the subject, but the end is not yet. In the present number we give the practice of Dr. Codman, of Boston, which, if it can be successfully carried out, is certainly superior to any thing yet discovered. If by any means the pulp can be made to secrete a new bony substance to protect itself, then “the thief of time” will no longer continue to steal away our teeth as he has heretofore done. Dr. Codman is a dentist of high repute in Boston, and his views are worthy of careful consideration and

the operation deserving of trial. The following plan of operating, taken from a late number of the American Journal, is also bold and novel, and if the writer has not been deceived, tends to corroborate the views of Dr. Codman respecting ossification of the pulp after exposure; but we cannot see the use of cutting away any portion of the nerve, as is recommended in the following article, nor any way of doing it without danger of mutilating the remaining portions so as to cause nerve inflammation—unless there is a fungous growth. These delicate operations are easier described than performed.

In our opinion there are but few cases where ossification can be provoked by any treatment which can be adopted. Ossification of the soft parts seldom or never is found in young people, the age when the teeth decay most rapidly, it is a change of structure which is more frequently found in old age than in youth. When we first commenced the practice of dentistry, animal teeth were almost the only ones which could be procured for inserting upon the fangs with pivots, and those generally used were the teeth of the cow; but it was necessary to procure them from the jaws of old animals, where they had been worn down by grazing until the pulp cavity had been entirely filled by a new deposition of osseous matter, which afforded a sure hold, when drilled, for the pivot. The same process takes place in the human teeth when worn down by antagonising with those in the opposite jaw. This wearing process, however, is much slower than the progress made by caries in young persons, so that the nerves have timely notice of the danger which is approaching, and set about fortifying themselves accordingly; but when suddenly invaded by caries the vascular apparatus whose office it is to deposit new bone becomes deranged, if not diseased, so that the physiological action is disturbed and a pathological one takes its place, and instead of secreting new bone, we often find a purulent discharge. In the mean time caries continues to go on, and before that part of the pulp which was first exposed can be healed and its natural function of secreting bone restored—if such a thing be possible—new portions will be exposed and the disease be constantly increasing.

In old people whose teeth have become solidified, the progress of caries is much slower and the nervous pulps generally less sensitive and less easily deranged. When they have been slightly exposed, and the decay removed without exciting inflammation, by frequent changes of cotton or lint, the caries may be arrested until ossification commences again. This, we should say, would be more probable when the nerve was not wounded than when excised as recommended in the following

article. We hope that all the different operations which have been, or may be proposed, for the treatment of exposed pulps, which appear all plausible, will be faithfully tested, and in due time our profession will find out which is the best to be adopted in any given case. At present the safest and most reliable operation seems to be destruction of the pulp, and either drilling into the pulp cavity as recommended by Dr. Flagg and others, or filling to the end of the fang. This wholesale slaughter of nerves, it must be confessed, is a very great evil; but, in our opinion, a less one than that perfect passion which some have for extracting every tooth where the pulp is exposed.—*Ed. Recorder.*

TREATMENT OF EXPOSED DENTAL PULP.

“*Dr. C. A. Harris*:—DEAR SIR:—Much has been published of late respecting the treatment of the dental pulp. It appears that the arsenical preparations are held pre-eminent by many dental practitioners; but, sir, experience has taught me that very little permanent good has been obtained from the application of arsenic: on the contrary, it has been productive of much injury, for, in the majority of cases, it gives rise, sooner or later, to inflammation of the alveolo-dental periosteum, thereby producing the most intense pain, often followed by exostosis, and most frequently the loss of the tooth, besides generally causing nervous irritation of the general system.

“In my opinion, it is doubtful practice to destroy the pulp in preparing teeth previous to filling; therefore it should be avoided as much as possible, inasmuch as it destroys the vitality of the tooth to a very great extent, and frequently causes their entire death.

“Experience has led me to believe that the nervous pulps of the teeth are endowed with recuperative power, so that when wounded, cicatrization will take place, provided it is not followed by suppurative inflammation, and this I have learned from observation is not an inevitable result.

“The following is the manner in which I have treated exposed pulps during the last twelve months, and with entire success. In the first place, I remove all loose matter from the cavity, then apply cold water three or four times in rapid succession, by means of a syringe with a curved tube. This enables me to benumb, in a measure, the pulp, and whilst in this state I cut off, with a suitable excavator, that portion of the nerve which is near the orifice of the cavity, without producing excessive pain. I then repeat the water, and continue its application daily until I have deprived the pulp of much of its sensibility, taking care to apply a lock of cotton over the pulp, so as to protect it; this should be done after each injection. One week is sufficient to accomplish the healing.

“I then proceed to fill the tooth, by first cutting a strip of gold foil, and folding it in such a manner as to enable me to lay a floor over the nerve-cavity, and then fill and condense the gold in the usual manner.”

—*Am. Jour. of Dental Science.*

WANT OF FAITH IN LARGE GOLD FILLINGS.

It is but a few years since even the best operators in our profession attempted to fill the largest sized and most difficult cavities with gold in that neat, substantial, and workman-like manner, and with the same care that they were accustomed to bestow on those of a medium or small size. This arose, probably, from a want of confidence in their own skill and perhaps from a distrust of the ability of any dentist to save them, for any great length of time. A fear of breaking the tooth during the operation of plugging, a dread of having it said that their fillings came out, and an unwillingness to take their patients money without rendering a fair equivalent, has also deterred many operators from attempting to fill teeth which, with care and skill, might have been preserved for many years. The common practice, in those cases which were considered doubtful, has been to cleanse the cavity from all foreign matter, remove the softest part of the decay, and insert a "soft filling" either of gold or tin, telling the patient, at the same time, that the tooth was too far gone to fill well, but that the stopping would preserve it for a little while. We are happy to bear testimony to the fact that within the last few years the practice of dentists, in cases of this kind, has been very much improved, so that now practitioners of respectable acquirements are every day filling teeth which, a few years since, would have been condemned by the very best dentists in the country; but there are still many who are ignorant of their own abilities, and who from a timid fear of breaking a tooth which their patient is anxious to preserve as long as possible will not attempt to fill it, when no difficulty exists except in their own fears. We so frequently meet with cases of this kind which have been pronounced too far gone to be filled, that we feel the necessity of urging all young practitioners to look to their reputation in this respect.

An eminent English oculist once declared that he ruined a hat full of eyes before he learned to extract a cataract successfully. This accident need not happen in filling the weakest teeth, if the dentist begins right.

After several years of practice in filling the worst kind of teeth, we have come to the conclusion that there are none to be met with among the incisors, cuspides, or bicuspidés so badly decayed that they cannot be well filled with gold, if the parieties of the cavity are sound, no matter how thin or weak they may be. If there is strength enough to sustain the tooth against the force and strain which is put upon it while eating with ordinary, or even extraordinary care, there is enough to bear



the operation of inserting a solid well finished gold filling, and the tooth will be stronger after the operation than it was before. In some cases it may be better practice to extract the teeth, but we refer now only to such as it is desirable to save as long as possible. The following cases are a few among many which have come into our hands after being condemned by dentists in good standing, and are taken from our note book:

“Mrs. C—— called with her daughter who required some operation upon her teeth, in 1835. After it was performed Mrs. C—— requested me to examine her own teeth and give her my opinion. I did so, and without any hesitation, decided that three of the superior incisors should be filled immediately. At this time none of the nerves were exposed, but the parieties of the cavities were very thin, although not broken away. More than two years after, in November, 1837, Mrs. C—— called again, when one of the central incisors was broken off, and it had become necessary to have one pivoted to the fang. She then asked my opinion again concerning the remaining ones, and notwithstanding the nerve in one of them was dead, I again decided that they might be filled so that in all probability they would outlast the artificial one. She then told me that before calling upon me the first time, she had visited her dentist in New York (Dr. B——, who was known to be a good operator) and he had decided that they could not be filled, and she added, ‘I thought if he could not fill them, you *certainly* could not.’ But I succeeded without any difficulty in filling them both with gold.”

The fillings in one of these teeth are now good, and have not been touched since. In the other the enamel around the filling was so frail that, some years afterwards, the corner below the gold gave way so that considerable of the filling had to be filed away, making a wide space, but more than half of the crown with the gold filling remain good to this day. The fang on which the artificial tooth had been pivoted, gave way in July, 1844. This case shows that if Dr. B—— had had a little more confidence in his own ability he might have saved all this ladies’ front teeth until this day, and probably as long as she lives.

“Case of Mrs. B——; The two right and the left anterior, superior bicuspid of this patient had their nervous pulps exposed when I first saw her in January, 1840, and the teeth were badly broken away. They had already been condemned by an eminent dentist and I supposed could not be made to last but a short time, so after destroying the

nerves, I filled them with tin foil,* which has been renewed once or twice since. In July 1845, the tooth on the left side of the jaw had become so broken away that I extracted it, and a few days since the tin fillings again came out of those on the right side. Owing to the wearing away of the filling, the further decay of the teeth, and constant mastication upon them since they were first filled, the ends between the points of the teeth were broken away on their approximal surfaces quite to the bottom of the cavities, leaving a large cylindrical opening quite up to the gum—such an opening as we sometimes see filled with amalgam when it is crammed in between two teeth filling both at the same time.

The patient persisted in having them operated upon immediately notwithstanding they were quite sore to the touch and there was considerable swelling of the gums over the fangs. I cleansed the roots and filled both teeth as solid as I could make them with Ashmead's gold foil. The anterior one was plugged with rolls of gold and the posterior one with folds put in so that only the edges of the leaves presented and formed the surface of the plug, and I found that this received much the best polish from the burnisher."

Now this last operation was performed in October 1846, nearly seven years after the first, the teeth in the mean time were gradually wearing away and decaying, and notwithstanding these disadvantages the posterior one still remains, holding the filling which was then put in, although it has since been filled on the back, so that the two fillings now meet. The anterior tooth while biting some hard substance during the past summer was so broken that it had to be extracted, and the lady has since worn two artificial teeth upon a gold plate supported entirely by atmospheric pressure.

This case has been full of instruction to us for the past ten years, and from the success which has since attended our operations upon teeth as badly decayed as these were when we first saw them, we have no doubt but what, with the same thorough treatment then, which the remaining two received in 1846, all three might have been preserved to this day; but at that time we had never seen dead teeth as badly decayed as these were, thoroughly filled with gold. The common practice was to extract them.

We could relate many other cases of a similar kind if our limits would allow, but the above will sufficiently illustrate the kind of teeth which we

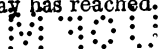
* At this time I had not confidence myself to believe that these teeth could be permanently saved, but practised as I had been taught to do.

think had much better be filled than suffered to decay further, or extracted for the purpose of inserting artificial ones on gold plates.

The mode of treatment, particularly the manner of packing the gold, it is obvious must depend much upon the position of the cavity, the progress which the caries has made, the proportion of the parieties of the cavity which have been broken away, the vitality or death of the pulp, the thickness and strength of the enamel, and many other circumstances which will only occur to the practitioner while in the midst of the operation. Upon this branch of our subject we can only lay down a few general rules.

Separating.—The first thing to be done is to obtain an abundance of room to operate in, before commencing to excavate the cavities. If the decay is situated between the bicuspides this can best be obtained by separating them with the file, and as these teeth are used hard to masticate with the edges should be removed far enough to prevent the liability of their breaking after the filling is put in. It is generally best to file them into something like the form of saw teeth, leaving them, in the antero-posterior direction, narrowest at the end. As they are naturally pointed, like the cuspidati, filing them into this form does not disfigure them as it would the incisors. The cuspids may be filed in the same way, and will look better when finished than if the two edges are left parallel; but the incisors should be filed so as to preserve as near as possible, their original form, removing only the rough, broken edges. Generally when the incisors are very badly decayed we find the enamel either on the front or back badly broken away, and fortunately this is much oftener on the back than front, so that when the edges are sufficiently smoothed with the file, there is generally ample room between them to introduce the gold, but if not their backs may be cut away to any desired extent. It is better that most of the enamel, where there is no bone under it, should be cut away on the back, as this is most frequently broken by biting with the teeth after they are filled, owing to the lower teeth striking there. Great judgment is required in this part of the operation to preserve as much of the tooth as possible, and yet cut away such parts as will be liable to break after the filling is completed. This can only be obtained by careful observation and experience.

Excavating, is the next important step in the operation, and requires great care and considerable dexterity. The greatest difficulties which are here met with are thoroughly cleansing the nerve cavity, when the decay has reached it and the nerve has been destroyed, and cutting the



cavity into such form as to secure holding places for the fillings. If the tooth is so broken away below that a probe can be passed up the nerve cavity, there will be no difficulty in excavating it; but if not it can be effected by drilling from the upper side of the cavity near the surface of the tooth towards a point in the nerve cavity about half way to the extremity of the fang, leaving a triangular piece of the bone between the nerve cavity, the decayed cavity, and the hole drilled. When this is cut away a fine probe slightly curved will readily pass to the end of the fang. A similar probe with fine beards cut upon it will remove every part of the remaining nerve, or any decayed or foreign matter. When it is necessary to cut holding places for the fillings it should be done as high up* as possible in the thick part of the tooth, where it will not be liable to fracture after the cavity is filled. If any portion of the gum bleeds or is in the way the cavity should be stuffed with dry cotton and suffered to remain for twenty-four hours, which will press it away from the edges of the cavity.

To be continued.

BLOCK TEETH.

Artificial teeth made in the form of blocks instead of single teeth have come much into use with dentists in this city within a few years. We have now among us several manufacturers who supply our operators with very beautiful specimens of the art. In some respects teeth mounted in this manner are superior to single teeth.

Those who wish a beautiful article in blocks, would do well to try Mr. Wm. R. Hall of Philadelphia, (see his advertisement on outer sheet of this number). We have seen specimens of his work which for natural appearance of material and beautiful carving, compare favorably with any which we have ever seen. See, also, advertisements to "Dentists," on same page.

SPRINGING OF PLATES WHILE SOLDERING.

Some months since this subject elicited the attention of dentists very generally, and various plans were proposed in the different periodicals to prevent this troublesome accident, and remedy it when it occurs.

It is very seldom that it happens in our practice, if the precautions of thoroughly annealing, after striking up the plate, and covering the whole

* It will be borne in mind that we are writing of the upper teeth—the same general principles will apply to the lower.

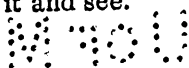
with a thick coating of sand and plaster are observed. A few weeks since, however, we fitted a plate for two bicuspidæ which adhered to the roof of the mouth with great tenacity; but after the teeth were soldered on, although there was no apparent change in the plate, when tried upon the model, the patient complained that it did not adhere as firmly as before, and could not be kept up without constantly exhausting the air from the chamber. In this state of affairs we determined to try the plan proposed by Mr. Sherwood. Taking the lead cast or matrice, we sawed away that part which would come in contact with the teeth on the plate, and placing it between the two casts, stuck them together with sufficient force to bring the plate back to its original form and fit. The result was highly satisfactory, as no harm was done to either of the teeth, and the patient has continued to wear the piece ever since.

APPLICATION OF ETHER TO TENDER TEETH.

Dr. H. S. Chase, of Woodstock, Vt. writes to the News Letter that he has been in the practice of using ether to allay the sensibility of tender teeth, while excavating them for filling, ever since it was introduced as an anæsthetic. He dips a lock of cotton in the ether and places it in the cavity of the teeth, changing it frequently until the sensibility is lessened, or entirely removed. When he has a number to fill, he prepares them all in this way, and changing them often goes from one to another, excavating a little in each, and then soaking it again with the ether, until the whole are completed. In this way, he states, he has been successful in filling the most sensitive teeth without pain, even when the nerves were exposed.

We tried this practice with chloroform, soon after it was introduced, in numerous cases, repeating it several times in each tooth and trying with the excavator every time the cotton was removed, to see if the tenderness was gone, but we always found it sensitive still. Each time we tried, however, a little of the carious matter was removed, until finally the whole was excavated and the tooth ready to fill. We never thought of calling this filling teeth without pain, nor "painless dentistry," but we did call it local anæsthesia, and rather think that it would be no libel to call it a harmless kind of *humbug*; but, by whatever name it may be called, the patients have always been delighted to find the tooth filled with so little pain. It is very probable that sulphuric or strong chloric ether may be more effectual, when applied in this way, than chloroform.

Try it and see.



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SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

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PRACTICAL DISCUSSIONS ON FILLING TEETH.---WITH REMARKS.

The effects of arsenic on the root of a tooth, described by Dr. Dwinelle in the following case, was very remarkable and calls to mind a similar one which occurred in our own practice. A very timid physician, in practice in the city, had lost his two superior central incisors, and wished to have them replaced by two artificial ones, pivoted upon the fangs. The nerves were alive and he would not submit to have them destroyed with a probe, but insisted upon its being done with arsenic. Having had but little experience with it at that time, we consented, and applied it to the exposed part of the nerve on a lock of cotton moistened with creosote. The next day upon examining with the probe the nerve was found to be still exceedingly sensitive a short distance up the fang, and in accordance with his urgent solicitation we again applied the arsenic. This was repeated several times until the nervous pulp was destroyed sufficiently to remove the whole to the extremity of the fangs. The teeth were pivoted upon them and did well for about a year, when the roots began to loosen and there was slight irritation and pains about them. After about two years, the roots became so troublesome that, on being again consulted, I recommended their removal. On examination, after extraction, I found that the fangs had been absorbed to within less than one-eighth of an inch of the artificial tooth, leaving the end of the gold pivot sticking through each fang, and presenting a rough uneven surface much as though they had been worm-eaten, or, as Dr. Dwinelle has it, "riddled like a honey comb."

The arsenic, in this case, was applied in very small quantities, but of its full strength, without being mixed with morphia or any other substance. Since we have practiced combining it with narcotine and tannin no such effect has been produced, although we have applied it in many similar cases. In this combination the arsenic seems to act more powerfully in paralyzing the nerve, so that we seldom have to apply it more than once, before a probe can be passed to the extremity of the fang, with scarcely any pain. The absorption of these fangs may have been produced by some cause other than the arsenic, but we have alway

thought that it may have been produced by it. This opinion is strengthened by the similarity between it and the one here described by Dr. Dwinelle.

“*Dr. Dunning* asked, if in his opinion, the absorbing powers of the nerve continued after it was dead, so that the arsenic could be taken up?

“*Dr. Dwinelle.*—The nerve is impregnated with arsenic, and when it is dead, I think the arsenic, if left to itself, will produce manifest disorganizing effects at the extremity of the tooth. I know a lady, one of whose superior molar teeth, below the crown, is completely riddled by arsenic. The carious cavity was filled with arsenic, and renewed after the nerve was killed, from day to day, to cure the soreness; and finally the dentist (?) in his despair, filled the cavity with arsenic, and completed the operation with tin foil. The root of the tooth is riddled like a honey-comb.

“*Dr. Cleveland.*—In the plugging system, supposing a molar tooth decayed upon the posterior portion, while the crown is solid above, and you wish to destroy the nerve around the fang, how do you reach the whole extent of the cavity of the root?

“*Dr. Dwinelle.*—I use Dr. Maynard's instrument of untempered steel, filed down to the fineness of a horse-hair. This instrument can be bent into any shape, and you have only to crook it over the arch or border of the cavity. The nerve is, I believe, less sensitive as you approach the point of the fang. Dr. Dwinelle here described an instrument invented by Dr. Maynard, for the purpose of removing particles of extraneous matter from within the tooth. It was prepared with a succession of barbs at the point and sides, like a barley beard, in order to draw out foreign substances. When I have exposed the nerve, in removing the crown of a tooth, for instance, I make it a point to seize upon that moment to destroy it, for the purpose of gaining ingress into the nerve without much pain, as the concussion of the operation benumbs the nerve for the moment. I apply a very little concentrated creosote, which enables me to enlarge the orifice sufficiently to get an instrument into the cavity. If practicable, I enlarge the cavity with a conical or V shaped burr, and then plunge in the instrument and destroy the nerve. With regard to their being a small alveolar gathering afterwards, I quote Dr. Maynard as authority, who says he finds one of these occasionally after an operation, but that it never occurs a second time.

“It was here suggested that the Society should listen to Dr. Hill's description of his composition for fillings; but inasmuch as the materials composing it were not to be made known, any remarks from Dr. Hill on that subject were deemed not in order.

“The next part of the subject proposed for discussion, was the best manner and material for polishing the bone.

“*Dr. Dunning* was in the habit of polishing with prepared pumice stone, using a stick of red cedar—an ordinary pen-holder. In reducing the inequalities on the surface of the stopping, he frequently used the stone of Ayre, which is obtained in the hardware stores.

"*Dr. Westcott* had used the Arkansas oil-stone. The only objection to it was that it was very apt to get cloggy; if that could be obviated, it would be the best thing possible. He took pains to get it in thin strips, so as to use between the front teeth. It gives a fine polish, but tires one's patience in using. The Scotch stone would be quite as good, if it could be obtained in as thin slips.

"*Dr. Cone* had found an article known as leather wood, which is procured in the south, and is very porous. This being first put into warm water and then dipped into a solution of glue or size, with flour of emery of various degrees of fineness, make a beautiful material for polishing. I have sometimes used even rotten-stone in this way. In completing the polishing operation, I use floss silk. In this I may appear more nice than wise."

There is no part of the operation of filling a tooth more important than that of properly finishing and polishing the filling and contiguous parts of the tooth. In our opinion it contributes quite as much to the durability of the filling as to its beauty. The old operators gave this but very little attention; if they succeeded in making the gold solid and compact in every part, they supposed that all was done that was necessary to be done. Subsequent experience, however, proved that where the edges of the gold were left projecting and rough, or slightly below the edge of the cavity, there food and foreign matter would collect and remain until the filling was gradually undermined and the tooth decayed by its side. This is particularly the case when the teeth are filled on their approximal surfaces and near the gum. Too much pains cannot be taken to finish the filling so that it will form part of the smooth even surface on the side of the tooth. If the tooth filled has been filed the filing should be made so full that after it has been condensed as much as possible a portion will remain to be filed off, burnished, and polished even with the filed surface of the tooth. We generally use pulverized pumice, and finish with Paris white or prepared tripoli.

"*Dr. Dwinelle*, at the request of several members, now proceeded to describe his process of bleaching dead teeth.

"*Dr. D.* prefixed his remarks by saying—Who of us have not had our better feeling and our conceptions of beauty and harmony shocked, at seeing a dead black tooth in a dental row of living and sparkling ones, like a jet in a setting of pearls. At first sight, it often strikes one as a *deficiency* altogether, but on a second, we find the foul spot has a fadeless and permanent hue, enough to excite the envy of a Chinese beauty.

"Although these instances are comparatively rare, yet they are sufficiently frequent to keep our indignation and regret in a decided state of health and activity—indignation, at the blundering operator, or regret, for the accident which caused the "dark transaction!"

"These deformities are often of such decided and unpleasant charac-

ter, that the unfortunate subjects of them often seek relief in having the dead member dislodged, and an artificial one placed in its stead. Up to within a few years past, I have, occasionally, in some extreme cases, yielded to the solicitations of my patients in this respect, but ever with unpleasant reflections and doubts exceedingly annoying. I have ever been impressed with the idea, that the sacrifice was too great, even for beauty's sake; for oftentimes, even though the tooth is of ebony shade, it is comparatively sound and as firmly set in the alveolus as its pale-faced neighbors.

"Abscesses and fistulous openings are often associated with the kind of teeth under consideration; in attempting to cure these, we accidentally discovered a method of restoring the teeth to their natural whiteness and beauty.

"Premising that all present know that the teeth are of such porous texture and quality that they are capable of being injected, and that the discoloration of which we speak, is occasioned by the dead blackened nerve in a semi-fluid state, being disseminated throughout the bony structure of the tooth. I will proceed briefly to recount my remedy.

"To illustrate, I will refer to one or two of my earliest cases. Mrs. ———, a lady, residing in Cazenovia, had a superior frontal incisor plugged with gold by an unskillful operator, about ten years ago. The operation was exceedingly painful, according to the representation of my patient, the filling at the time being applied directly to the exposed nerve.

"She suffered much for a number of weeks, and soon after the pain subsided, a large protuberance was raised in front which pressed out the lip and even gave the nose a permanent elevation, as in the case of a swelled face, very much disfiguring her countenance. While I was operating to discharge the reservoir of matter which caused the protuberance, I suggested to her that I would like to see what I could do towards bleaching this tooth as well as to cure the abscess and reduce the protuberance. She gave me permission to do so, and I proceeded to drill through the sound part of the tooth, leaving the lateral fillings as they were. I drilled into the nerve cavity, and with a hoe-shaped instrument I drew out a quantity of pastry substance, something like ink; I then washed out the cavity with a solution of camphor, and filled the root with cotton from the apex down to the pulp-cavity of the tooth; I then cleaned it out as much as possible, and for experiment, introduced cotton of various colors, to see how much the tooth was whitened. The yellow cotton produced the most natural color, yet there was a dark, dead medium. I then filled up the cavity with a solution of lime and sealed it with white wax. She came next day. I took out the lime-water, found it was considerably stained; but the tooth looked better. I removed some more of the internal surface by scraping, and continued the application of lime till I thought something else was required. I next introduced soda by way of change, alternating too with chloride of lime. After having completed this process, I filled the tooth to the extremity with gold, using a very fine instrument, filling every point, water and air tight. I then closed up the cavity and went to work at the outer

surface of the tooth, taking off the surface, which was even darker than on the inside. I at length succeeded in raising the color of that tooth to as high a tone if not higher than its neighbor at its side. In the course of about two months, however, it subsided a shade darker; but it is now as much whiter than before, as gray is whiter than charcoal. This is one of my comparatively unsuccessful operations. I had another case where the tooth was as black as this, which I challenge any one to distinguish from others around it. There are cases where I cannot succeed as well as I could wish. I operated on the teeth of two sisters in one family, and succeeded beyond my expectation. I brought the teeth up from a dark, snuff color, to a rather rich golden white. They were very much gratified, and consider the operation entirely successful, which I do not.

“Previous to my attempting to bleach teeth, I had not heard of the operation, and know that I was the first to practice it in my vicinity.

“It has been my good fortune to restore a large majority of the stained teeth which have passed through my hands, to their original color and beauty. I regard it as an operation which, in proper hands, promises much, and I feel sanguine when I make the declaration, that a little perseverance, aided by a common share of skill, will greatly improve, if not completely restore, four cases out of five. Should my friends attempt the operation, I trust they will persevere, and not predicate the success which surely lies before them upon one or two of their first failures.

“*Dr. Dunning* inquired if he had tried it where amalgam had discolored the teeth.

“*Dr. Dwinelle* said he had not.

“He then inquired if it would not be well to cut a great deal from within the tooth?

“*Dr. Dwinelle* said he did so. When I have finished bleaching the tooth, I try the effect of gold foil on the inside to see to what pitch I have brought it. I had almost forgot to mention in regard to the first case that I cut out the protuberance, healed up the sinus and the lady's nose has assumed its natural character.

“*Dr. Harris* said he had tested the bleaching qualities of chloride of lime and soda, and always kept a bottle of one of them containing a solution for this purpose.

“*Dr. Foster* related a case of a lady who had the misfortune to have a dead front incisor so long neglected that its blackness almost deterred him from the hope that it could be restored in strength or color. All the other teeth in the mouth were perfect in number, and of that beautiful pearly white texture, so rarely seen. After a long and very laborious process of excavation, the blackness was entirely removed, and the tooth filled into the nerve cavity. He then found the whole front surface of the crown of the tooth so thin that unless some intervening substance could be placed between the gold and the enamel, so as to restore the color of the tooth, his labor would be in vain, for it would be a gold tooth in color as well as weight; upon placing a small piece of a

newspaper under the front surface from curiosity he could readily distinguish the letters through the enamel. This suggested the experiment of trying other paper, and a piece of blue letter paper, cut to the form of the thin surface of the enamel, but not allowed to extend quite to the edges of the cavity, was found to answer the purpose, and when the gold was pushed carefully under it and the operation completed, the difference in point of color was hardly observable. This operation was performed the week previous to this meeting, and its ultimate utility undetermined; but the chances of an unfavorable termination, cannot, he thinks, be increased by the use of paper, provided it does not extend to the edges of the cavity, and the filling is so firm and compact, as that moisture shall not reach it.

"*Dr. Rich* had tried the same experiment, only he had used tissue paper, which was not so good.

"*Dr. Westcott* had lately treated a tooth which was perfectly dead and extremely discolored. He drilled into the tooth, wound the apex of the syringe with cotton, to prevent the fluid from running back, and thus forced the fluid through the apex of the tooth. He did not like to trust the other method of cleaning, as foul matter was liable to be left at the end of the root.

"With regard to the substance used for bleaching, he used either chloride of lime or chloride of soda, taking the precaution to free it from all acid, before it was employed. So far as his experience could decide, it was an operation promising very little. Treated one tooth four or five weeks with but slight change of color."

We have but little confidence in any process for bleaching the teeth, for the reason that no bleaching fluid can be confined in the cavity of a decayed tooth long enough to penetrate the whole of the discolored part. The ivory of the human tooth is of the finest texture and grain, exceeding in this respect any specimen of the tusks of the elephant or hippopotamus, and is on this account more difficult either to stain or bleach, except upon the surface. When in the practice of inserting teeth on bases made of different kinds of ivory, we several times employed the ivory turners to stain these blocks a pink color, to make them more nearly resemble the color of the gum; and, notwithstanding they took unusual pains, allowing them to remain much longer in the dye than was usual for other articles, such as billiard balls, counters, &c., they were never colored beyond the mere surface of the blocks, and the color was all worn away in a few months. The same is true of the bleaching fluid, it will not penetrate far enough into the bone when applied in the carious part of the tooth to remove the discoloration immediately under the enamel. If the teeth are of a yellowish hue, nothing is better than gold foil well packed, first cutting away the discolored part within the cavity until the gold will give about the right color to the

tooth. We have tried several different experiments with teeth of the pearly hue, and of the delicate, translucent white teeth which are sometimes met with in young persons ; but have not thus far been very successful. Some of these promise well, and at a future time we may allude to the subject again, giving our experiments and the success which attended them, but at present we must say with Dr. Westcott, that, in our opinion, it is an operation promising very little.

Third Day, 8 o'clock. P. M.

“ The part of the subject next taken up, was the best means of keeping the cavity dry for filling.

“ *Dr. Rich.*—Some years ago, as an experiment, I dried a cavity with a piece of newspaper. It answered the purpose so far as to make the cavity dry, but some particles of the paper was left adhering to the walls of the cavity. Subsequently, I tried different kinds of paper, and found tissue paper, slightly sized, to answer the best for this purpose. I prepare it by rubbing until it is quite soft, and then tear it in strips of an eighth, quarter and half an inch wide, and three or four inches long, so that I have three sizes. Each strip is then twisted into the form of a rope, and it is ready for use. When I wish to dry a cavity, I take a strip of twisted paper and pack it into the cavity until there is enough in to absorb all moisture, leaving the end projecting. To remove the paper, twist the projecting end hard, and the paper will come out easily, leaving the cavity dry. I never was able to make a cavity perfectly dry with cotton, but I can with paper. A simple experiment will illustrate the superiority of paper prepared as I have directed, over cotton, for absorbing moisture : place two drops of water upon a piece of glass, and attempt to take one up with a lock of cotton ; you will find it difficult to do so. Touch the other drop with a piece of prepared paper, or you may use a piece of newspaper, it will absorb all the water, and if the paper be pressed upon the glass, it will leave the glass perfectly dry.

“ I often use paper with great advantage, when I wish to fill cavities that may be near or partly under the gum. In such cases, the paper is twisted so as to form a small cord and wound around the neck of the tooth, it is then pressed up under the edge of the gum, and the ends secured with a piece of thread, this will prevent any saliva from entering the cavity.

“ Where there is an extraordinary flow of saliva, I use paper to absorb it, particularly when it is necessary the mouth should remain open a long time. For this purpose, I use thick blotting or filtering paper, it is made up into rolls about the thickness of a finger, say from two to three inches in circumference, and from three to four inches long, according to the size of the mouth. Have ready a number of these rolls and when you wish to use them, direct the patient to raise the point of the tongue to the roof of the mouth, bind the roll of paper so that it will lay inside of the arch of the teeth, and when you have placed it there, the tongue must be gently pressed down upon it to keep it in place. The paper will absorb a large quantity of saliva. When the roll be-

comes saturated, it can be changed with great facility. If it becomes necessary to stop the flow of saliva from the salivary ducts, the thick blotting paper may be used for that purpose, by folding three or four thicknesses of it together, and placing it between the cheek and gum, so that it will cover and press upon the mouth of the duct. The surrounding parts must be made perfectly dry and the paper applied quickly; if this be not done dexterously, so that the paper and membrane are dry where they come in contact, they will adhere so closely, that you will have to wet the paper before it can be removed with safety. If you attempt to remove the paper while it remains dry, a portion of the mucous membrane will adhere to it.

"I have been thus particular in describing the manner in which I use paper, as I believe it will be new and interesting to many. When I was experimenting with it, which is some years since, I mentioned the result of my experiments to Drs. Cleveland, C. A. Harris, Solyman Brown, E. Maynard, E. Noyes, L. Roper, E. Townsend, A. Westcott, W. H. Dwinelle, E. J. Dunning, C. C. Allen, J. H. Foster, and others, and it was a new idea to them at that time.

"*Dr. Foster* said, that *Dr. Rich* had entered so carefully into the subject, and his method of drying cavities and preventing the flow of saliva being very similar, he had but a few remarks to make upon this question. For drying the cavities, he used the finest old linen handkerchief, well worn, that could be had; these, his lady patients, many of them, seeing the use to which they were applied, were in the habit of furnishing him with abundantly, for which he was much indebted. He used linen, doubled, for absorbing the saliva in filling the under teeth, placing one of these in the requisite position, and retaining it there by means of an instrument made for that purpose, the handle of which the patient holds with the left hand. Sometimes he has found it necessary to change these doilies three or four times in filling one cavity to prevent the flow of saliva into it. It is important that these doilies should be pure linen, and he always depended on the judgment of the ladies, and not his own, in procuring them. In filling the upper teeth, no other precaution is necessary to keep the cavity dry, than to hold a small fold of one end of a doily with the fingers of the left hand against the inside of the tooth, and with the other end occasionally to wipe away the saliva as it oozes out from under the upper lip around the alveolar ridge in front.

"*Dr. Cleveland* inquired what method he took to relieve the moisture in the event of its getting in before he completed the filling?

"*Dr. Foster* said, he took out the gold and tried again, except in a very few cases he could succeed in keeping the cavity dry.

"*Dr. Harris* said he could show a tooth filled without drying, which, at the time, he had no expectation of preserving more than a year or two, in consequence of the frail texture of the organ. It is now as perfect as when first filled. He felt the importance of keeping the cavity dry, but had met with cases where he could not do it. In such cases, he expected by pressure to force every particle of moisture from the cavity.

"*Drs. Westcott and Rich* thought it could not be done.

"*Dr. Cleveland* was in the habit of using unsized fine cotton cambric for preventing the moisture from getting into the cavity. He tore it in strips about an eighth of an inch wide, or more, as occasion required, and a quarter of a yard in length. It enabled him to absorb the moisture quicker than anything else.

"*Dr. Harris*.—I always aim to keep the cavity dry, but sometimes, I must confess, I cannot. I have sometimes removed the plug half a dozen times, until I have been compelled to introduce the gold when the cavity was wet. I have a filling in one of my teeth, introduced by a student of mine, in which he failed to keep the cavity dry, and I venture to say it will be as perfect at the end of ten years as now. With regard to the best form to give gold previously to introducing it in the cavity, the method I pursue is to make a narrow fold or roll from a piece of foil, varying in width from a quarter of an inch to an inch.

"The chairman said that he sometimes made a ball as hard as he could possibly roll it.

"*Dr. Cleveland* had quite a different method of preparing the foil. He took a sheet of foil, and cut a strip entirely around, till the whole sheet was cut up. For an ordinary cavity, he took a strip half a yard in length. He placed this upon a velvet cushion, and with a blunt condenser broke up the smoothness of the strip of gold. He then formed it into a perfect string, having something the appearance of a gold chain. The advantage of this was, that the parts interlock so as to form a perfect ball. The doctor here exhibited a string of gold thus prepared, and showed his method of preparing it, much to the gratification of the Society. He said it was first suggested to him by his brother Thomas. With regard to checking the flow of saliva, he had never used any of the articles mentioned. He was in the habit of using his finger and thumb for that purpose.

"*Dr. Westcott* gave his views at length upon the subject of keeping cavities dry, describing the means employed, and demonstrating the necessity of the greatest pains to exclude all moisture during the operation of plugging.

"[*Dr. Westcott* having since this meeting, made some improvements in the means of freeing the mouth from saliva during the process of filling, has decided to embody his remarks upon that occasion in a separate article upon this subject; they are therefore omitted here.]

"*Dr. Rich* desired the opinion of the members, whether it was not considered important to have the surface of the filling continuous with that of the tooth? The general opinion was that it was better to have it so, in order to have a perfect joint; also to have a depression in the centre of the filling.

"*Dr. Rich* said he had adopted a plan to prevent the flow of moisture from the palate, which was to make the patient draw in his breath through the mouth, and expel it through the nostrils.

"*Dr. Morton*, of Boston, here described an apparatus which he had

invented to obviate the flow of saliva. The apparatus cannot be described in words, without a drawing. It is sufficient to say that it resembles a miniature fife, and is attached to the under jaw, to collect the saliva.

Dr. Dwinelle.—I have considered this subject of such importance, that whenever I have failed in keeping a cavity dry, I have kept mighty dark. Submarine operations may do for ships, but not for dentistry. In order to obviate the flow of saliva, I have resorted to curious contrivances. One of them is this: in filling an inferior molar on its grinding surface, I have taken a fine slab, wet it on either side, and dipped it in white wax, thereby making sheets of wax. You can have them as thin or as thick as you please. I wipe my tooth dry with Dr. Rich's paper, after which I build a coffer dam around the tooth to be filled, and proceed. Sometimes, when the flow of saliva is very abundant, I take a small syringe, wind a piece of copper wire around the middle of it, so as to leave a ring in which to insert my finger, and with my thumb in the ring of the piston, I pump out the mouth with my left hand. In this manner I have filled an ordinary tumbler with saliva, during a single operation. I agree with Dr. Westcott, that moisture will prevent the gold from coherring. When there is a probability of the gold having absorbed moisture, I anneal it anew. You will sometimes find the first leaves of foil work admirably, but after you get to the back part of the book it is a different article. I take these leaves and hold them over the blaze of a spirit lamp, (not of pure alcohol, for that gives too hot a flame,) and it is astonishing how the surfaces of the gold will adhere. Care should be taken to keep gold foil dry, by keeping it in a drawer by itself, with a weight upon it covering the whole surface of the book.

"The evening being far spent, the Society proceeded to transact the little remaining business, and adjourned till the next year. The members had conducted the three days discussion in an excellent spirit, and were all highly gratified with the mutual interchange of each other's views and methods of practice."

There can be no doubt about the importance of thoroughly drying a cavity before inserting the gold, or of keeping it dry while packing the gold, until it is so far filled that the moisture will not suddenly penetrate it, or between it and the side of the cavity in case of an unexpected overflow. Where it is important for the success of the operation of filling a tooth, that every part of the gold should cohere in one solid mass—as, for instance, when a part of the parities are broken away, so that it becomes necessary to build up the gold—too much pains cannot be taken to keep it perfectly dry, for if there is not a complete cold welding of the leaves of the foil it will crumble away gradually, and finally destroy the whole filling. There are other cases, however, where it makes but little difference whether the cavities are kept perfectly dry.

or not, though, as we have said above, we consider it surer and better always to keep them dry if possible. These are the cases where the surrounding wall or abutment, against which the gold is to be packed, is so strong that there is no danger of its ever giving way. In such cases it makes no difference whether the gold coheres or not, provided the last piece inserted is held securely in its place, and the whole surface is sufficiently solid to resist the wear upon it, and capillary attraction of the fluids. In the former case if the gold and cavity should be wet when half filled, we should deem it necessary to remove all the gold, take extra precautions for keeping it dry and try again; but in the latter, if a similar occurrence should happen, we should force the gold together against one side of the cavity, dry the remaining part and go on with the operation only taking extra precaution to secure the last inserted, as the whole filling might depend upon it.

We have now presented our readers with the most important parts of this practical discussion, which continued for several days in the American Society of Dental Surgeons. As it is generally conceded that this society contains many of the best dentists in the country, (though some of the bright particular stars were not visible in the ferment at that time) these discussions will undoubtedly be read with very general interest. We bespeak for them a careful perusal, not so much on account of the great amount of information to be found there, as for their suggestive quality. Many of the operations described are mere experiments which require farther trial before they are approved or condemned, some were suggested at the moment by remarks made by others, seed sown by the wayside which may or may not spring up and bear fruit, while the most important part of the operation, *the filling, itself*, and the instruments proper to be used were not touched upon at all, or if discussed, was not reported. These discussions cannot but have the effect to harmonize the different views of dentists, they give strength and confidence to the modest and unassuming, and remove the self esteem from the ignorant and conceited. We hope that the Society of the State of New York may continue the discussions which have been commenced there, until they have been over the entire round of the theory and practice of mechanical and dental surgery. It is an easy matter for each member to give his own ideas, in his own language, upon any point of practice, and when this is done each individual has the experience of every other, while for one member to prepare an essay which will be acceptable to the rest requires much time and study, and when read contains the views of but one.

For the Dental Recorder.

VASCULAR TUMOR IN THE MOUTH.

In the early part of January, 1851, a lady about thirty-five years of age, consulted me in regard to a tumor which had made its appearance posterior to the central incisors of the superior maxillary, and involving the roots of three incisor teeth; upon which artificial crowns had been engrafted two or three years previous.

The tumor was about the size of a large almond, red, inclining to purple, vascular, and moderately soft. It had been the source of much pain, and at times had bled considerably.

With some hesitation I introduced a lancet so as to reach the base of the tumor. A profuse discharge of apparently pure blood immediately ensued. Thinking the hæmorrhage might subside after a time, the patient still occupied the chair, and made free use of strong astringent gargles, but the flow of blood continued, and the amount discharged in some twenty or thirty minutes would have occupied the space of a large number of such tumors, so that I began to suspect the tumor might be aneurismal. It did indeed appear to be composed almost wholly of sanguiferous capillaries. The arteries supplying the tumor were evidently increased in size, and had lost their contractile power. The case was quite new to me, and excited some apprehensions for a short time. Finding the roots of the superior incisors much involved in the diseased mass, I advised their immediate extraction; first, because I thought it necessary, and second, because I thought it would prove the most effectual means of checking the hemorrhage, which was becoming quite alarming.

My proposition was readily acceded to, and I was soon after able to control the bleeding in a greater degree than before.

But as the hemorrhage was still quite serious, having bled, I should judge, a quart (my spitoon was so full as to be in danger of overflowing), and, as I had promised my patient a temporary set of teeth within a few days, I thought it advisable to remove the tumor at once.

My first thought was to excise it, but a moments reflection convinced me that it would be entirely unsafe on account of the hemorrhage that might follow. Upon a re-examination, I discovered that although the lower part of the tumor was quite large, the base or upper part where it was attached, was quite small, in fact a mere peduncle. This determined me at once to apply the ligature instead of using the scalpel. I anticipated from this an immediate suppression of the hæmorrhage and a speedy removal of the tumor, and in this I was not disappointed. The

operation was attended with little pain, and the bleeding immediately ceased.

Apprehending that the lady would be unable to call upon me the next day, I told her that I would call upon her at her residence. In the meantime I consulted such authors as I was able to lay my hands upon.

I found no case precisely like this described, but found the highest authorities, Mr. Fox at the head, for the mode of procedure that I had adopted in similar cases.

I was quite agreeably surprised on the following day to see the lady at my office, and to learn from examination that the tumor had almost wholly disappeared. The ligature still remained attached to its base.

Upon enquiry I learned that, with the ends of a sharp pair of scissors, she had cut numerous slits into the tumor, and thus being a merely vascular mass after the circulation was cut off, it soon shrank away. The course adopted by this lady, without directions, is precisely the one I should recommend in a similar case, though it is not very material, after the circulation is interrupted, what is done with the part below the ligature.

The patient was requested not to disturb the ligature, but suffer it to come away of itself, which it did in some three or four days without any subsequent hæmorrhage; and the parts were sufficiently healed in the course of six or eight days to admit of a temporary set of teeth, which added much to her personal appearance, though the gums remained quite tender.

A few words as to the cause of this tumor, and the improvements we should make of the case, and I have done. The roots that were extracted, were examined very carefully, and all that could be discovered that might be considered a cause, was a very minute opening on the side of one of the central incisors communicating with the canal for receiving the pivot. The roots were moreover quite short and rather rough.

Dr. Harris says that "tumors seldom arise spontaneously, but are in most instances the results of local irritation." A cause so slight as this might have been insufficient in one whose gums were less excitable, and even in a majority of cases, to have produced such a result; but in this case I am inclined to believe it was an exciting cause. It shows us certainly the importance of the greatest care and circumspection in setting pivot teeth. It also shows most decisively that the practical dentist should possess something more than merely mechanical skill, and that the general principles of anatomy, surgery, and therapeutics, should be

well settled in his mind, that he may not be at a loss in any emergency. The importance of presence of mind, and ability to act adroitly in unlooked-for circumstances, is also shown. While pursuing our studies in the medical department of Yale College, in 1828, the late venerable Dr. Nathan Smith used to lecture to the students on the great importance of *being cool* and *having their thoughts about them* in any sudden emergency, however trying; and showed the calamitous effects of *the want of coolness* and *self command*, by relating a case that occurred near New Haven not long before. A man was suddenly aroused from his slumbers in the night, with the cry that his house was on fire over his head, whose first care, when he saw his imminent danger, was to take the shovel and tongs, and with the greatest care and deliberation, deposit them safely upon a stump in a neighboring field.

S. E. ARMS, M. D.

THE DENTAL RECORDER AND DR. E. PARMLY.

BY THE EDITOR.

Some of the readers of the Dental Recorder have undoubtedly seen an article in the New York Tribune of February 1st., signed E. Parmly, charging, or at the least intimating that the editor has been guilty of "the rankest kind of injustice, dishonor, and dishonesty," in the management of the Recorder, and also reflecting upon his want of candor and fairness towards him personally. As the article was addressed to the readers of the Recorder, and as the editor did not see fit to reply to it in the Tribune, it seems proper to do so here by giving a plain statement of facts.

First. Dr. Parmly accuses me of refusing to publish his article, in July, 1848, and then promising *never* to mention his name again in the Recorder, which promise, he says, "has not been kept." Dr. P. knew, when he wrote this that I did not then, and he has been assured that I never did, so understand that promise. This construction of the promise would preclude the possibility of my ever noticing any publication he might make upon professional subjects, any professional act of his life, any part which he might take in the American Society, even the name of the President would have to be left blank in the Recorder, its readers could not learn from its editorial pages who conferred the degrees in the Baltimore College of Dental Surgery, nor who addressed the most wholesome advice to its graduates, and even the death of Dr. Parmly, if that sad event should happen during my connection with the Recorder, must remain unheralded, and his fame unsung. Is it at all

probable that I ever intended to make so broad a promise as this? Does it look reasonable? One which, if kept, would prevent me from fulfilling so large a portion of my duties as an editor, and conflict so directly with the avowed objects of the Recorder, as set forth in the prospectus, and published on the cover of almost every number? No. The article to which he alludes, was rejected because I found it necessary to stop a controversy more personal than professional, which had been carried on in the pages of the Recorder, between Dr. Parmly and another dentist, for six months. After publishing editorially the principal and strongest point in the rejected article (as nearly in accordance with his wish as I could do consistently with impartiality), I then promised that his name should not appear again *in connection with that controversy*. In other words that his opponent should not again reply, and that I would not farther notice it myself. This is as I remember the promise, and it has I believe been faithfully kept.

Second. Dr. Parmly says, referring to his answer to Dr. Burdell's letter, in the December number of the Recorder, "On being informed of the length of my answer, the editor, with *his* sense of justice, after publishing one from an opponent with *allusions* and 'remarks,' refused to print it." On receiving a note from Dr. P., asking if I would publish a reply to Dr. Burdell, I returned a verbal answer that I would, with pleasure, if the reply was no longer, or but little longer, than the letter of Dr. Burdell. When more than half of the January number was in type, Dr. Parmly writes me again, saying that his reply would occupy from four to six pages, calling for still another reply from Dr. Burdell, and asking if I would publish it *without* "*editorial remarks*." To this note of Dr. Parmly, I replied in substance, that I had not room for so long a communication, nor was I disposed to lend the pages of the Recorder for another personal controversy,—that if Dr. Parmly wished to confine his reply to the letter, it need not occupy more space than the letter itself, and that I should reserve the privilege of making such comments as I pleased, if Dr. Parmly introduced any new matter or personal allusions. Is there anything unfair or unjust in all this? Have I refused to give him a fair opportunity to reply to Dr. Burdell's assertions? No such thing! I offered him more room than Dr. B. had occupied, but I was not willing that he should misrepresent the Society of Dental Surgeons of the State of New York, and the Dental Recorder, as he has done in the Tribune, and as I expected he would do, without setting him straight with my editorial remarks.

Third. Dr. Parmly accuses me, on Burdell's authority, of publishing

Dr. Burdell's letter "*with alterations.*" This, to say the least, is stretching the truth. The only *alteration* made by me was the addition of the word "*for,*" printed in italics in the following extract.—"You also stated that the Society of Dental Surgeons of the State of New York, was formed (*for*) and is an amalgam Society." This is the head and front of my offending. During the setting up of this article, and after the "*for*" was added, Dr. Burdell was so anxious to have every word exactly right, that he came to the printing office and made some alteration in his letter, and after it was up he came again, and read his own proof sheet. I did not see it afterwards, until the whole edition was worked off. On my return from the country, where I had been for a week, learning that Dr. Parmly had been told that I published the letter with alterations, I procured from the printer, a certificate to the fact of Burdell's reading his own proof, and sent it to Dr. Parmly; yet, after all this, he reflects upon me in the following manner. "I consider, too, that the garbling of a sentence, or changing, or adding to one, over another man's signature, is the rankest kind of injustice, dishonor, and dishonesty." Is this fair? Is it honorable? Is it honest? Let us look for one moment at the alteration, and see if any great violence was done to the meaning of the sentence as written by Dr. Burdell,—"*was formed, and is an amalgam Society.*" Evidently here is an ellipsis, which, if supplied, will make the sentence read, "*was formed an amalgam society, and is an amalgam society.*" This any honest grammarian would say was the meaning of the sentence. Now if it was formed an amalgam society, was it not formed *for* or *as* an amalgam Society? and was not one of these words necessary to make the original sentence read smoothly? * I thought so and added it, "*wherefore consider I pray you, and see how he seeketh a quarrel with me.*"

Fourth. Dr. Parmly says, "The readers of the Recorder have had very frequent opportunities of seeing printed a part of a sentence written during the Amalgam Controversy, which I now repeat with all the

* It is my usual custom in reading communications, to correct any errors, either in punctuation, repetition, or omission of words, when there is any apparent error, before sending them to the printing office. The word *for* was added with no other view than to correct what I supposed to be an omission, overlooked by Dr. Burdell. It was my intention to send him the proof, as I always have done to Drs. Parmly and Baker but he came and read it twice after the addition was made, and could not see any alteration in the sense or meaning, made by the word *for*, until after it was published, when he coolly turns round and accuses me with publishing it with an alteration which "*changes the sense considerably.*" Such a scholar should not have ventured beyond his a-b-abs without consulting his master. I now request that every person who has the Dental Recorder, should erase the word *for* and see what the meaning of the sentence will then be.

earnestness and force with which I then used it, '*I have no confidence in the professional honesty of any man who will use it, saying, as many do, that it is better than gold.*' Now there is not, probably a practicing dentist in the world, who would not, if asked, say that there have been many, and are still, some persons calling themselves dentists, who, in the use of amalgam, riot in fraud and deception, using it in front teeth, and in many other cases where nothing but gold should be used, and "*saying that it is better than gold*" for these very cases; but there are many others whose common practice is to use gold, and who know how, and actually do use it well, for filling by far the largest proportion of all the teeth they plug; but who, nevertheless, find a small proportion of the teeth requiring to be plugged, which their observation and experience have taught them can be better and longer preserved by amalgam; for these cases they use amalgam, "*saying that it is better than gold.*" Here are two distinct classes of dentists, saying that amalgam is better than gold; those in the first, are ignorant, empirical, and knavish; those in the second, scientific, skillful, and honest. No dentist can look around without recognising these two classes, although there may be exceptions to some of the above characteristics in both. It is this second class of dentists who have found fault with Dr. Parmly, because they believe that his object has been, both in his acts and his writings, to cause them to be ranked, in public estimation, with the first class. I will here examine some of Dr. Parmly's acts and written declarations, and see whether they have any good reason for entertaining this opinion.

"The committee," Drs. E. Parmly, and others, "to whom the duty of reporting on the use of 'lithodian, mineral paste,' and all other substances, of which mercury is an ingredient, for stopping teeth, reported in substance, that the use of all such articles were hurtful, both to the teeth and every part of the mouth, and that there was *no tooth*, in which caries in it could be arrested, and the organ rendered serviceable by being filled, in which gold could not be employed."—*American Journal*, Vol. 2, p. 136.

"Having proved its deleterious effects, *I uniformly condemn it*, and have condemned it for many years."—*Ibid*, Vol. 3, p. 16.

"The committee therefore expresses the *unqualified opinion*, that mineral paste is wholly unsuitable for the purpose of filling the cavities of carious teeth, and *should never be employed for that purpose.*" Signed E. Parmly, and others.—*Ibid*, Vol. 4, p. 199.

"I do not approve of the practice of any who use mercury or quick-silver as an ingredient for stopping teeth, and would not privately recommend any one to go to such," and again, "Such an admission from such a man as Dr. Baker should make the face of every honorable man

blush to own that he uses it, or to give the slightest encouragement, or in any way sanction its use."—*Ibid*, Vol. 6, p. 13.

"It was from the tests that experience" &c., &c., &c.—"that I was at an early period strengthened and confirmed in my convictions of its *total unfitness* for the purposes for which it was used; and my subsequent acquaintance with its baneful effects, not only upon the teeth, but upon the general health, has led me to the decided conclusion that *it should never be used or countenanced in any case.*" In the next paragraph, he says. "In proof of the correctness of the above belief and assertions, I will adduce the testimony of those who stand high," &c. He then quotes Dr. Westcott, who says, "The third position we took in relation to this amalgam was, that *its use was never called for.*" Another quotation is a letter from Dr. Chilton, which Dr. Parmly says, "proves beyond controversy, that *amalgam should never be used in the mouth,*" &c.—*N. Y. Jour. Med* Article, Parmly on amalgam.

Now let the reader contrast these written declarations with the following extract from Dr. Parmly's article in the Tribune of February 1st.—

"I have never said that it might not be used in some very rare cases, with comparative benefit, but not without its disadvantages, which cases I will hereafter name, but it is the use connected with artifice and imposture that I have said and now say is *professionally dishonest.*"

In the N. Y. Journal of Medicine, from which I have quoted, Dr. Parmly says,—"Of the hundreds of teeth that have been filled with amalgam, and subsequently come under my observation, I have not yet seen one that did not bear marks of *reproach to the practitioner who performed the operation*, and clearly demonstrate, that professional skill, professional knowledge, and *common honesty* were wanting in the operator, to an equal degree that one or the other of these three qualities were wanting in the Crawcours, who mixed the ingredients as well and used them quite as successfully."

In reference to this last declaration, the Recorder has the following remark.—"We perceive that Dr. Parmly classes all dentists who use amalgam, even in the least objectionable manner, with the Crawcours and Mallans," &c. (Vol. 2, p. 116,) to which Dr. Parmly replies. (See Vol. 2, p. 129.) "Permit me to say that if you will read the paragraphs again, you will perceive that I class all the amalgam stoppings I have seen, with those of the Crawcours and Mallans." I did read it again, and found that it still read "bear marks of *reproach to the practitioner* who performed the operation," by which I understand that he meant to make no distinction between those who performed the worst and the best operations with amalgam, which he had seen, and again, "I have never brought in comparison either the moral or professional character of the Crawcours and Mallans, 'with those who use amalgam in its least objec-

tionable form.' I believe there are wide and marked differences to be found in their characters and principles, but the amalgam made by them as far as I have seen, and had opportunities of judging, is identically the same." This, however, was written for the Recorder, and would only be seen by dentists, while the other had been published in the Medical Journal, and in pamphlet form for distribution among the medical profession and laymen.

In the New York Tribune of May, 28, 1847, appears the following, against a gentleman who was "formerly in practice with E. & J. Parmly," and who is now, and ever has been, esteemed by his brethren, so far as I have ever heard, without a single exception, as an excellent "filler" with gold, and as a conservative in the use of amalgam; one who, in my judgment, is as unworthy to be classed with the ignorant or dishonest as any user of amalgam in this city.—

"TO THE PUBLIC.—A circular was placed in my hands yesterday, issued by F. H. C——, in which he has used my name, commendatory of his practice. I would take leave to say, that while Mr. C—— adhered strictly to the mode and manner of treating teeth, approved by me, and followed by those in whom I have confidence, I recommended him, but as he has departed from that, by using quicksilver in stopping teeth, *I have no longer confidence in him, nor in the professional integrity of others who use it.* I cannot, therefore, recommend him, or them, as safe persons to apply to as dentists. E. PARMLY."

These declarations were written from time to time, during a period embracing more than six years, and all this time Dr. Parmly's acts were such as to correspond with the above declarations, and to convince those who took any interest in the subject that he meant to reproach all who ever used the "poisonous" material even in the most extreme cases and in its least objectionable manner. He signed the pledge and protest against amalgam, issued by the American Society, the object of which was to prevent any member from using it *in any case whatever*, and he voted to expell Mr. John Lovejoy, (a Dentist whose professional character needs no endorsement by me) from the society, because he would not give up his right to use it. Lest I may be charged with "garbling" or "changing" the language, I have given Vol. and page, and now ask those who have the books at hand to examine them for themselves, and see, if during this whole time they can discover, in any of Dr. Parmly's writings, one single exception to these sweeping declarations against amalgam. One single case in which he admits that any man may honestly use it,* even if he don't say it is better than gold,

* The following comes the nearest to such an admission of anything that I have

I have not been able to find it. If this is so—saying nothing of the sin of commission, as his language and acts speak for themselves—has he not been guilty of the sin of omission? If he believed that it could *honestly* be used in any cases, ought he not to have made those exceptions and cleared all who only used it in such cases, from suspected dishonesty? Common justice and benevolence, would seem to dictate this, as well as a decent regard for the opinions and feelings of his professional brethren. This very omission is negative testimony, going to prove that he never meant to except any, but designed to rank the second class of dentists, specified above, with the first, and thus degrade and sink them in public estimation. The want of any exception makes even the declaration with the clause, "saying it is better than gold," just as censorious towards the second class as the first, for if a dentist used it only in cases where teeth had been worn with clasps, "saying that it is better than gold," Dr. Parmly's declaration comes upon him with just as much "earnestness and force" as it would if he used it in all cases. I do not wish my readers to lose sight of this point, for it is really the principal one at issue between Dr. Parmly and other respectable dentists who occasionally use amalgam in their practice. All these deplore the abuse of amalgam by the first class as much as Dr. Parmly, and, although some of them, while experimenting with it, may have used it in cases where it ought not to have been used, it has not been with dishonest motives.

Such being my opinion of Dr. Parmly's motives for fulminating these declarations against all who use amalgam, which opinion was formed from the data here specified, and many other of a similar kind, I have not hesitated to pronounce his conduct, and the conduct of those who acted with him, unkind, dogmatical, and libelous,* and I leave it with my readers to say whether the language has been properly used.

seen: "There may be those who use it (as many have said) 'only in teeth that cannot otherwise be preserved.' I have never seen operations from any such, and am at any moment prepared to prove abundantly that some of these men have used it where permanent gold fillings might have been put in." (Vol. 2, p. 130 *Dental Recorder*.)

* In applying the word *libelous* to the circular issued by Dr. Parmly, containing letters from eight other dentists, (the "immortal eight,") I did not charge any malicious intention, or accuse them of any criminal act, but used the word according to Dr. Webster's definition---here it is: "LIBELOUS. Defamatory; containing that which exposes a person to public hatred, contempt and ridicule."

I used the word according to its common (not legal) meaning, without any unkind feeling towards Dr. Parmly or either of the other gentlemen. In justice to three of them Drs. E. B. Gardette, E. Maynard, and C. A. Harris, I should say that while they expressed themselves decidedly hostile to amalgam, they did not accuse those who used it of dishonesty.

Fifth. Dr. Parmly asks, "What safety has the public in a class of men without science, who use amalgam indiscriminately, in all cases, with no other recommendation than the Dental Recorder?" The Dental Recorder is not in the practice of recommending any "class of men," nor is it interested in putting up or down any clique or individual, nor has it ever recommended the "*indiscriminate*" use of amalgam for filling teeth; but, on the contrary, has discouraged its use *in all cases* for front or side teeth, and for all teeth without nerves, whether front or back. Its editor has never admitted that it could be used judiciously in more than four classes of teeth. 1st. Where teeth have been worn by gold clasps. 2d. Where the cavities in back teeth are superficial and cannot be made deep enough to secure a gold filling. 3d. Where it is desirable to preserve the wisdom teeth and others in the back part of the mouth when very badly decayed. 4th. Around a platina tube for pivot teeth, in fangs too badly decayed to fill with gold. These, with few exceptions, are the only cases in which I use it in my own practice. In the first two classes (specified by Dr. Burdell) Dr. Parmly *now* admits that amalgam may be used with comparative benefit, but not without risk. The "risk," or possibility of its salivating a person peculiarly susceptible, I have also admitted in the Dental Recorder, though I have never seen a single case: so that, with the exception of the third and fourth classes, specified above, I cannot see that any difference exists between the principles of the Dental Recorder, and the opinions of Dr. Parmly.* I am pleased to see that his views so nearly accord with my own.—On the whole I think he is about the right kind of an "*Amalgam Dentist*," and that he has not read the NEW YORK DENTAL RECORDER, in vain.

N. B. If there is any misstatement or anything in the foregoing article which is not strictly true and perfectly fair, I would be obliged to Dr. Parmly, or any of his or my friends, if they will point it out, and it shall be corrected in any subsequent number.

WANT OF FAITH IN LARGE GOLD FILLINGS.

CONTINUED.

Packing the Gold.—This is by far the most difficult part of the operation and can only be acquired by practice. One thing must be borne in mind, which is, that the gold must be packed so that all parts of the filling will adhere together in a solid mass. We do not mean by this

* I wish I could say the same of Dr. Burdell, but that gentleman has within a few weeks shown me a patient for whom he had just filled a superior incisor with amalgam, which I certainly should have filled with gold, or not at all.

that the foil must be reduced to the same specific gravity of molten gold ; but that all parts of the plug shall be tied or locked together and compressed so firmly that no capillary attraction of the fluids in the mouth shall exist.

We prefer to have the gold prepared in short rolls or pellets proportioned in size to the size of the cavity to be filled. These pellets are from two to three times the length of their diameter, and somewhat pointed at each end. If the cavity be deep they should be longer than when it is very superficial. Many dentists prefer to use the gold prepared in long folds or coils ; we used the latter for several years, until we found by actual experience that the ends of the coils, which accumulate in a short time, worked more to our satisfaction than the longer pieces, when we abandoned the coil and prepared it in the form of pellets. The difficulty which we experienced was in forming and introducing the folds of the coil when there was but little room to work in, for instance, in large superficial cavities between the teeth on their approximal surfaces. In such cases, if there is but little space between the teeth, and the decay extends high up towards the gum, it will be next to impossible to introduce any more gold, if, when condensing it, the operator finds there is a deficiency ; hence it is necessary that this point of the cavity should be filled first, and made as solid and compact as possible by lateral pressure towards the upper (gum) side of the cavity, so that when it is one-quarter full that part may be packed as solid in that direction as it is when entirely filled. The difficulty of forming and introducing the folds of the coil, when that form is used, consists in this,—if one end of the coil is introduced and packed into the upper and back part of the cavity, in attempting to bend the coil to form another fold to carry up, we shall be apt to disturb that part which has been already packed : it will be started from the position into which it has been packed, and it will be difficult to get it back into the same place. If it goes into a different spot, it has been so hardened by the first pressure that it will not again conform to the new spot, and will not therefore make a perfectly tight filling. We always regard it as a misfortune when the gold which has been once forced into contact with any part of the cavity is disturbed or moved from that spot. By using the gold in the form of pellets we have less difficulty of this kind to encounter.

In filling large cavities, the parieties of which are partly broken away, we may assume one thing as a fact, which is that there must be two sides left nearly opposite each other, to pack the gold against

and hold the filling. In the molars and bicuspedes these are generally the labial or lingual sides, as these teeth generally begin to decay on their approximal surfaces, and become complicated by the side of the cavity towards the grinding surface breaking away, and in the molars, frequently communicating with a cavity on the grinding surface. In the incisors and cuspides the holding points will generally be the side of the cavity towards the gum, and that opposite to it towards the point or cutting edge, as the point and back sides of these cavities are apt to be broken away. We shall now describe as clearly as we can, our method of packing the gold in these cavities, as the same general principles will apply to all other cases.

In the molars and bicuspidates, if the pulp has been exposed and extirpated, the nerve cavities are first to be filled. Where these are very small, as in lateral incisors we use thick foil cut in the narrowest strips as prepared by Dr. Maynard and described in Vol. 3, of the Recorder; but if the canals are of the ordinary size of those found in the other teeth, we usually cut a strip of gold of the common thickness, (No. 6,) about a quarter of an inch in width, and roll it into a fine coil or thread. In this form it is easily introduced to near the extremity of the fang. If either the labial or lingual side of the cavity be much broken away, we do not fill the cavity of the pulp, but make use of that to help sustain the main portion of the plug; but if these sides are entire we fill the whole pulp cavity independently of the remaining part of the cavity. Then taking with a pointed pair of tweezers a pellet of gold, one end of it is placed in the upper and back part of the cavity, while the other lies over the side between the teeth. With a thin instrument bent at right angles, this first piece of gold is forced upwards and backwards towards the gum, while a part of it remains between the back, or lingual edge of the cavity, and the adjoining tooth wedged between them enough to hold it in place until the next piece is inserted in a similar manner, and forced upwards and forwards. In this manner piece after piece is introduced until we come to the grinding surface of the tooth. Here the gold must be forced towards the labial and lingual sides of the cavity; this may be done by forcing into it a thin wedge-shaped instrument, in such a manner as to spread the gold in these two directions, this may be then filled up with a piece of gold compressed into a thin form between the tweezers, and the edges of the adjoining gold turned over it. This should be repeated until as much gold has been inserted as can be by forcing it in this manner. When no more

gold can be got in by lateral pressure, the remaining portions standing out over the edges of the cavity should be forced in by all the strength which can be put upon it. The filling may then be finished by filing, burnishing and polishing. If the operation is rightly performed, and all the gold put in which can be by lateral pressure, there will be no soft places after the surface of the filling has been condensed, but the whole will finish up like a solid piece of gold, and will retain a smooth polished surface. Fillings of this kind, put in upon the approximal and grinding surfaces of the molars and bicuspidés, often fail because the thin edges of the enamel are not cut away as thoroughly as they should be. When this is the case, the edges soon break away, and the pressure, when biting hard substances, comes directly upon the filling, which soon causes it to crumble away. The corners of the walls of the cavity should be thoroughly rounded over from the approximal to the grinding surface of the tooth, or if weak, filed away like the spaces between saw teeth. If this be thoroughly done, and the gold finished in the same form, the pressure of masticating will be upon an inclined plane, forcing the gold into the cavity. Great pains should also be taken to finish the edge of the filling nearest the gum, so that there may be no roughness either of the gold or edge of the cavity to collect and hold the food. This is an important point of the operation, and one which is often neglected.

To be continued.

MEDICAL AND DENTAL PUBLICATIONS.

Ether and Chloroform: Their Employment in Surgery, Dentistry, Midwifery, Therapeutics, Etc., by J. B. FLAGG, Surgeon Dentist.

The Medical Student's Guide in Extracting Teeth; with numerous Cases in the Surgical Branch of Dentistry. With Illustrations: by S. S. HORNER, Practical Dentist.

The above works are from the press of Lunday & Blackington of Philadelphia, the enterprising publishers to whom the dentists are indebted for most of the works on dentistry which have been published in this country. They are for sale by Jones, White & Co., 263 Broadway. We have also received Prof. Bond's late work, which will be noticed in our next. The above works will be found interesting and instructive to medical men and dentists.

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No. VI

FILLING TEETH.

BY JAMES TAYLOR, M. D., D. D. S.

The following remarks upon filling teeth were embodied in an address delivered before the Mississippi Valley Association of Dental Surgeons, and published in the Dental Register of the West. The operations of filing cavities in different parts of the teeth are described in a more minute and practical manner than we have ever seen in any published work, and, if carefully studied, cannot fail to impart much valuable information to the practicing dentist, especially to the younger portion of the profession who have as yet no settled method of operating. As to whether Dr. Taylor's method of filling teeth, taken as a whole, is the very best that has been devised, there may be a difference of opinion; but, as to its being a *good* method and one which, if faithfully carried out, cannot fail to make substantial and beautiful fillings, there can be no difference of opinion. We will only say that if any of our readers know a better system, they can gain more laurels and will lose no money by publishing it.—*Ed. Recorder.*

"In the present discussion of this subject, I shall so far as brevity will permit, follow the course which I pursue before the dental class. In doing this, however, I shall not be able to go into all the detail, but will give general principles and classifications. All cavities are not alike either in shape or location, the *modus operandi* also varies; classification is then necessary for description. How can you describe without a name? To do this so as to be well understood, the name should locate the cavity, but to avoid confusion such names should be adopted as would simplify as much as possible; hence I have adopted the following general classification: First, central cavities. These embrace all those situated on the cutting or grinding surface of the teeth—the molars and bicuspid most generally present such cavities.

"Second, the labial. These are situated on the outer or labial surface of the teeth. The molars most generally present this location of decay; yet in certain forms of disease it extends to the incisors, canine and bicuspid. I might say a certain form of decay first attacks these, then the molars.

"Third, the approximal. These are situated on the approximal surface of the teeth, and form a class as a general rule the most difficult to treat. They are found on all the teeth, and in form are modified by the shape of the teeth affected.

"Fourth, the palatal. These are located, as the name denotes, on the

palatal surface of the teeth. They are the most rare of any—occurring most frequently on the lateral incisors and first and second molars above.

“These four divisions embrace nearly all, yet we have at times combinations of these. There is the central and approximal combining the central and labial, the central and palatal, the palatal and approximal in the incisors. Other combinations may occur, but these are the most usual.

“Let us consider the four distinct and marked divisions, and in the order named; then, if time permit, consider the combinations, with those presenting an exposed nerve, &c., &c.

“First, the central. This class of cavities are most generally found in the molars and bicuspid, and are the most accessible and least difficult to fill of any. Yet even here where success would appear always certain, how often are we mortified to find that the most plain and apparent principles of mechanism have been neglected. The reason why such fillings often fail and come out, is not because the cavity may not have been well cleansed and formed, but from the mode of introducing the gold. This, I think, will be made apparent as we proceed in this discussion.

“The first duty of the dentist is carefully to examine the nature, depth, and extent of the cavity he is about to fill. If the decay is deep, he wishes to know if the nerve is exposed, the condition of the bony structure and the strength of the walls of the cavity. To determine these several conditions, he must carefully probe the decay, scrutinize the color of the enamel and tooth, &c, &c. When this has been satisfactorily done, the next step is to uncover as it were the disease; that is, break down the frail portions of the enamel which generally hide from our view the extent of the decay in the bony structure.

“Close observation will enable us to determine pretty accurately the extent of the decay, by the color of the tooth; for the decay beneath is reflected through the enamel, giving it a black, blue, or white appearance, depending on the nature and color of the decay. It is always, however, different from the healthy color of the tooth.

“The first step in the preparation of the cavity, is therefore to remove this enamel, and for this purpose I have some half dozen cutting instruments of different forms; flat on one side and beveled on the other; so as to form a cutting edge like a chisel; two pair of these come to a sharp point. For the lower teeth, the cutting part of the instrument is bent at right angles with the bar. In the use of these I commence at the centre of the decay, and break in by small piece after piece, the enamel, until I find the border firm and strong. Then with an excavating instrument remove all the softened portion of the tooth, and by the time this is done every point around the opening is so exposed as to indicate the exact line to which we should carry the use of the cutting instrument. I use these instruments because they are more speedy, and produce less pain than the drill. After, however, I have progressed thus far in the operation, if the cavity is round or will bear being thus formed, I select a drill as near the size of the decay as possible, and with this, round the mouth of the cavity; but it must be recollected that

all these cavities are not of this shape, nor will admit of this construction. We find on the molars, and more particularly on the inferior small grooves or fissures running at right angles across the centre of these teeth, resembling a suture, uniting the four prominences on the grinding surface of the teeth. The centre where these fissures cross is depressed, and often so much so as to form a lodging place for small particles of food. Here is the point where disease commences, and it extends along these sutures to where they disappear in the smooth enamel which forms the outer surface of the tooth. At the extremes of these sutures there is often observable a depression much like the central one, and each of these points, like the central, becomes the seat of disease. When decay has progressed to any considerable extent, all the points of disease are merged in one, forming a large and single cavity; but where this is not the case, we find a condition of things requiring much time and skill to overcome. If the disease has followed the line of these sutures, we will have an irregular shaped cavity, with four points of healthy bone corresponding to the four prominences of the tooth, running in toward the central decay. These may be too firm and sensitive to bear cutting away. It will not do, however, to drill out the centre and fill, leaving a dark line along the extent of these sutures; but these must also be cut out, each forming a cavity of itself sufficient to retain a plug if there was no connection with the centre. In the preparation of such cavities for filling, I first open the centre with my cutting instruments, then follow these sutures as far as diseased, remove the loose carious portion of tooth with an excavator, and then determine, by careful observation, the form which is best to give the cavity. In some cases, I first with a drill round the centre, then with a much smaller one, drill out each suture. This is, however, merely to give form to the border of the cavity; for after this is done, I prefer using suitable excavators, so bent and pointed that I can reach any point of the cavity. In the use of these instruments, I need hardly say that the cutting should be from the nerve; this is particularly necessary in deep decay. Every practitioner of experience and observation must have observed, the cessation of sensibility to some extent which follows the perfect removal of decay from the sensitive tooth. How shall we account for this: is it the diseased portion already softened by disease, the touching of which gives such pain? If not, why is the sensibility so sensibly diminished when this is removed? To avoid as much pain as possible in the removal of such decay, as well as to facilitate the operation, I select some point of the cavity most accessible, and here with an excavator well adapted to the cavity, reach as soon as practicable the firm bone beneath. Then with each stroke of the instrument, first touch the healthy bone, and drawing outward remove the carious portion. In deep decay this can be done by circling around the nerve, leaving the portion over the nerve to be last removed. This is specially necessary when we anticipate its exposure. When, however, there is much sensibility around the border of cavity in the bone just beneath the enamel, we need not expect the exposure of the nerve. In deep decay, when there is no sensibility at this point, I should expect a dead or exposed nerve. There is much

on this point of the subject which might be dwelt upon; but a more appropriate time will be when we come to the filling of the teeth over exposed nerves. Enough has been said to give some idea of the different conditions of decay to be met with, particularly in the inferior molars. Sometimes the same is observable in the superior. It is needless to say that these conditions must give form to the cavity in either instance; but in the superior molars we have more frequently two distinct cavities, the anterior large and round. The posterior oblong, situated on a suture which marks off a section of the teeth, sometimes one-fourth, one-third, or more, running from the back part of the posterior or labial prominence of the teeth, obliquely forward toward the centre of the palatal surface of the tooth, dropping it is true back of the centre, lining off as it were the posterior palatal prominence of the tooth. We have then in these teeth very frequently, two depressions, each becoming the seat of disease, and only separated by a small portion of healthy bone. The suture running from the centre back, is often merged in the other, and when decay has progressed far, uniting both in one cavity. When these two decays are separated by healthy bone, strong and firm, they are to be treated as two separate cavities; but if this be not the case and the decays meet, the intervening bone, although but partially destroyed by disease, should be as far as possible removed. This is done best with the cutting instruments.

“One or two peculiarities occur in the central decay of the bicuspid, which are worthy of note before we further describe the manner of preparing these cavities for the reception of a plug. We have here but the one suture running across the teeth, and this passes from approximal surface to approximal; but the minor or palatal prominence of the tooth being placed central, and the labial also being highest in the centre, this suture is sometimes nearly if not quite divided by an elevation which passes from the labial to the palatal prominence. Thus forming two depressions. This condition of things is met with not only in the superior, but also at times in the inferior bicuspid. Disease often takes place at both these points, and the necessity of one or two fillings will depend on the extent of decay. This form of teeth giving rise to two depressions, should be borne in mind, for, if decay also takes place on the approximal surface, we shall have a compound cavity at times difficult to manage. When I come to speak of approximal cavities, however, I shall have occasion to especially allude to the effect which they exert in the formation of these cavities. All teeth may be affected with cavities on their grinding or cutting surface, forming central cavities; but they require not a separate consideration, as the same treatment would be applicable.

‘It will be observed from what has been said, that the form of the cavity must often depend on the several conditions already described. The manner of exposing the decay and removing the caries has been alluded to, but the shape of the inner portion of the cavity has not been described; I allude particularly to the walls which bound the cavity. Shall these be perpendicular or shall they be beveling, forming a much larger cavity within than around the margin? Much has been said on

this subject, yet I suppose that no one would now contend for an enlargement of the cavity just beneath the margin, forming what is called a neck. The impossibility of properly filling such cavities is acknowledged by every experienced operator. Such a form of cavity, although in certain other locations, *in part* may be admissible and even advantageous, yet in those now under consideration it is always improper. I prefer that the walls of the cavity, (and particularly the central,) be perpendicular—making the cavity as large within as at the opening, but *not* much larger. The disease should be thoroughly removed. I mean by this, that not only the discolored portion of the tooth should be removed, but all that portion which has been acted upon by the decomposing agent inducing decay. But it may be asked how this is to be determined? The nature of the decay must here be duly considered. Caries assume three marked characteristics as it regards color—black, brown, and that called white. In the black, the carious portion is generally hard, and the bone beneath often discolored deeper than the extent to which decomposition has extended. This discolored bone has not always lost its vitality; not knowing, however, but the discolored portion may have been sufficiently acted upon by the agent inducing decay, to ultimately produce decomposition. It is thought best that it should be removed. This practice, although not always absolutely necessary, yet it is considered safer. Still I prefer a cap of hard discolored bone for the protection of a nerve to any artificial one that can be made. I think in this variety of decay we should be governed some by the density and sensibility of the bone as it regards the amount to be removed. Solid, well-constituted and healthy bone is as good if not better than any filling which can be introduced, and should never be removed except where it is necessary to give shape to the cavity.

“In the brown variety, we have a more softened condition of decay, the dentine less discolored, the line of demarkation between the diseased and healthy portion more distinct, the earthy portion appears to be removed, leaving the cartilaginous, which still adheres to the living structure, and indeed seems as yet not to have lost its own vitality. This decay is more rapid in its progress than the former, yet the portion of the bone which is being decomposed and which intervenes, separating the healthy structure from the softened decay, is thin and much harder to be cut than that which we find in the white variety. This should always be removed; if left, the teeth around the plug will soon become discolored, and if moisture gets in, will soon soften and render the operation useless.

“The white variety presents some singular characteristics, differing entirely from either the preceding. We here generally have extreme sensibility of the bone. This sensibility is not in the decomposed and already softened substance, but it is in the part immediately beneath, and which is rapidly undergoing decomposition. I say rapidly because we generally find this form of disease makes rapid progress. May not this in part account for the extreme sensibility of bone? This form of disease is also more frequently found in the young than the aged. There is therefore less density of bone, more vascularity, and hence we

may look for more inflammation. The cartilaginous portion appears to be removed first, at least leaving a preponderance of the earthy matter as decayed substance. This is just the reverse from what is seen in the brown variety. The whiteness of the decay appears to be dependent upon the absence of animal matter, leaving the phosphate of lime in almost a pure state; mixed up it is true with foreign matter, which has lodged in the cavity. Yet when this is removed, we often find a white powdery substance, crumbling beneath the pressure of the cutting instrument, and are astonished with our patients to find the tooth so far gone.

"This condition of decay has generally been considered the most difficult to treat. I have heard some dentists remark that 'they did not believe that teeth thus affected could be saved.' Let me ask why is this so; or rather is this the case? Is it not more attributable to an imperfect understanding of the disease? To the fact that many of our patients thus afflicted are young, rather ungovernable, &c. That indeed but few of our patients with such teeth will hold as firm as is desirable—we have a greater flow of saliva to contend against, we are anxious to give as little pain as possible, and may we not be deceived as it regards the extent to which the disease has penetrated the tooth. Is there not beneath the crumbly, powdery substance a layer of bone which should also be removed? I believe there is, and that unless this is cut away, a few months will find a filling out, or that it is too small for the cavity.

"This stratum of bone has so far been injured by the acute state of inflammatory action, that it must ultimately be dissolved. And may it not indeed have absorbed a sufficient amount of some solvent fluid, which must not only decompose this stratum; but as this is done, pass on to the healthy portion? One thing at least is certain, which is, that when this is removed, the extreme sensibility of bone is also gone.

"There is no variety of decay requiring such thorough work to arrest. I believe that an aching tooth will keep up the disease. It is important in all cases to remove from the mouth all teeth which are causing irritation, and cannot be preserved. Here it is absolutely necessary. But I am digressing somewhat from my subject. I thought it necessary, however, to allude to a few circumstances in connection with the different varieties of decay named, because these conditions should direct us in our operations, and determine the extent to which we should use our excavating instruments. I have not pretended to describe every condition of decay; for time would not permit. We have modifications of these forms of decay; causes exist which may at times blend two or all together. I have seen the white pass into the brown, and the brown to the black.

"The cause of dental disease forms of itself a subject of vast importance to every dentist. We are now, however, only treating of one of the remedies. Enough has been said to give a tolerable idea of the manner of preparing the central cavities for a plug, and much has been here said, too, in relation to the disease which need not be repeated when we come to speak of the other class of cavities.

"The cavity having been prepared for a filling, by the entire removal

of the disease, the margin being firm, smooth, and somewhat regular, that is, not notched and ragged, or the edge frail and brittle. The walls extending inward, being as near perpendicular as possible, or if beveling, so as to slightly enlarge the cavity within, yet not so as to form a neck, but the wall to present a continuous plane, so that a fold of the gold may rest against it smooth and straight its entire length.

"Let me here draw attention to one circumstance, which if neglected, will ultimately show itself around the margin of the filling. It is this, that in shaping these cavities, that is in removing the carious portion, if particular care is not taken, the diseased bone just beneath the enamel will not be removed and we will have a neck shaped cavity, the neck of which will be filled by caries. The decay will generally be found full as large at the entrance of the cavity, immediately under the enamel as within. A portion of the enamel yet apparently unaffected by the disease laps over the decay—this in the brown and white variety alluded to, may be still unchanged in color; yet with a proper shaped excavator, which can be thrown in under the enamel, it will be found soft or undergoing decomposition. When this is ascertained to be the case, it shows that the enamel has not been sufficiently removed. This diseased bone I generally remove first, and then trim the border to suit; or, as is often the case, cut and trim, until I find this part of the cavity perfected. Just so in the use of the drill; the first one used cannot, and generally should not be as large as the decay, but after using one which will pass in readily, cut the decay from under the enamel; then a larger drill, and repeat this till this part of the cavity is perfected. As I before remarked, however, the first step in the preparation of the cavity, is the breaking down of the enamel which covers the decay with the cutting instruments, and this is done to the extent necessary, thoroughly to expose the disease.

"We pass on to the next step of this operation, and this would be the preparation of the gold; for this should be prepared and ready for insertion before the cavity is washed out and dried. I am aware that various plans are adopted to accomplish this object. Some cut the gold in strips of about one-fourth of a sheet; then roll into a cylindrical form, adding strip after strip to this roll until enough is added to fill the cavity—then make a few folds at one end, sufficiently large to be retained in the cavity when put in, till other folds are made with the plugger and forced upon it, filling up by these repeated folds the entire cavity. Others take two or three sheets of gold, lay carefully together, then fold once or twice, so as to get some ten or twelve thicknesses of the foil, then cut in strips as wide as the cavity, leaving these strips all united, then roll up one end into a ball, sufficiently large to be retained in the cavity, then fold in, in regular and successive layers, as much as can be forced into the cavity. This plan when done by an expert operator, goes far to the accomplishment of all that is desired.

Some difficulties, however, present in the proper introduction of the gold in this manner, let us take for instance a central cavity. You commence with a strip introducing the folded end first, then with your instrument draw up and force in another strip; let this be done with all

the care imaginable, and all these strips will not be of one length; some will have been drawn entirely within the cavity, while others will project without. A few *misfolds* of this kind will occasion two things; first, the too rapid filling up of the cavity within for the border; and second, an irregularly compacted surface for the filling, rendering it more difficult to put on a fine finish. The same objections hold good as regards the first plan.

"But this condition of things is far preferable to that which often takes place. The first fold or ball is forced into the bottom of the cavity, the next on top of this, and so on, filling up from the bottom to the top. If this plan is adopted, and it certainly is the easier so far as the filling up of the cavity is concerned, yet what is to hold the last fold of gold. True this may be worked into (more or less) that which is beneath, yet, if I mistake not, such fillings will generally be found to wear down pretty fast, and be far easier picked out than when the folds are compacted in the other way. Others again roll up small balls of gold, and force in one after another, beginning at the bottom of the cavity. The great desideratum undoubtedly is to fill up the entire cavity, make the gold as solid as possible, impervious to air or moisture, and so compacted and held together, that one portion cannot be removed without the whole, unless by the aid of a cutting instrument.

"That plan which will secure the introduction of the most gold, and best fill up the entire cavity, is certainly the best, and that which experience and long practice has made easiest to one, may be for the want of this almost impossible to another. Well do I remember the first filling I attempted to introduce with my foil cut into strips, and with foil such as recommended by one of our best dentists. This foil was rather hard yet adhesive, so that when folded it would stick together—when once introduced, it made a hard plug and bore a fine polish; yet after long and tedious labor, I tore my plug entirely out, and took up my cylindrical rolls. This to me then was *the* plan. But one failure did not discourage me, I tried other foil, and at length nearly threw my rolls aside. Notwithstanding I did this and preferred my gold in strips yet the objections already alluded to determined me to try another plan, and I commenced this in the central cavities, for I found these especially in the second molars superior, also inferior, to be as difficult to fill neatly as any other, which was anything like as accessible. I commenced by taking my strips, such as I had been using, these I cut, say one-third or fourth longer than the depth of my cavity. I then carefully rolled these into blocks of various sizes, having one sufficiently large to retain its position in the cavity when introduced. The object being to place these perpendicular in the cavity, and fill up from the farthest portion of the cavity forward; but to do this the ordinary plugging instruments would not answer. For a long time I used a couple of pair of pliers, so shaped at the point, as to resemble the ordinary sharp pointed plugging instruments used for these cavities. I have now perfected what I call a set of plugging pliers or forceps, consisting of five pair, to these I shall probably add one or two more. The five are made from patterns of instruments most used in general filling. When closed

they resemble at the point these instruments, being sharp at the point, and so bent as to enter almost any cavity accessible with any instrument. When closed, therefore, they can be used as the ordinary instrument; and are thus often used for compacting the gold as introduced; and so admirably do they answer for this purpose, that in using the strips for filling, I use also these forceps. They possess one advantage over the ordinary plugger, which is, that with them you can catch hold of the strip at any point desired, carry it direct to the bottom of the cavity, and thus secure the desired length of fold. The spring of these instruments are such as to permit them to be closed with slight pressure, yet such as to force the blades some half inch apart, when this pressure is entirely removed. They are about five or six inches long, this should be determined by the length of hand, &c. Let us now take as an illustration of the method of using these instruments, the filling of a central cavity in an inferior molar. The cavity has been prepared, a napkin is held in place around the tooth with the speculum. The cavity has been thoroughly dried by the use of cotton, tissue paper, lint, or some such substance, which will most readily take up the moisture. The foil has been rolled up in blocks to suit the size of the cavity, requiring some four, six, eight, or ten, to fill the cavity, depending on its size. These blocks you have laid perfectly within your reach. You then take a pair of forceps bent at near right angle; with these take first your largest block, place this on end in the posterior part of the cavity, having the cut border of gold, projecting out of the cavity, say one-fourth the depth of the cavity; the other end, of course, resting on the bottom. When this block is to its place, and forced back solid against the posterior wall of the cavity, another next in size is introduced in like manner, and forced back against this; but it must here be remembered that this block will not as the first reach across the cavity; hence it should be forced to one side. The third block to the other, the fourth to the centre, and so on until the cavity is completely filled. As each block is introduced it is pressed solidly back to its place, the last block introduced has a portion of the strip unrolled, and as much of this as *can be*, is forced in as a closing wedge. We here see the propriety of having the walls of the cavity perpendicular, so that these blocks will rest solid against them without being bent or broken down. In large cavities, after the introduction of each, or two or three blocks, a strong plugging instrument is used to force back and down these blocks, and thus give room for the introduction of others. We have here a filling made up of continuous layers of gold, each layer projecting above the cavity. No fold too long or too short; for in deep and large cavities the bottom can and should be first filled up to a level with the shallowest part of the cavity, by the introduction of one or more blocks laid in on their sides, and made perfectly solid. And this I do in all those cavities of much size, and where there is much tenderness at the bottom. A little experience will soon direct the most proper size and firmness of the blocks to be used, also their length. I have found that if properly introduced, and consolidated as introduced, that but little pressure on their

ends is necessary to finish the compacting of the gold ; yet this part of the operation is very important ; as pressure should be made as the tooth will well bear. For this part of the operation a few strong instruments are necessary. These I have constructed in a manner which renders them fit only for this purpose. I take the ordinary straight, curved, and flat compressing instruments, but the points are cut like a file, the sides of the flat are also made this way. These are to be used after the introduction of the gold. Two objects are had in view in having my compressing instruments thus made. The first is, they can be held more readily to the place ; not being half so liable to slip. The second, they compact and unite the surface, and by a rotary or sliding motion, file off as it were, that portion of the gold which cannot be forced into the cavity. In the use of these instruments a continuous, straight, heavy pressure is not the most effectual ; but the motion should be made so as to rock the instrument, as it were, back and forward on the gold.

“ Fillings inserted in the manner just described, in central cavities, where these have also been properly prepared, will not wear out by any process of mastication, short of that which will wear the teeth away.

“ The manner of filling all the central cavities is so near the same that a separate description is not necessary. I shall therefore only allude to a few particulars, which change to a certain extent the manner of introducing gold. Occasionally we have a cavity too small for entire block filling. When this is the case, I use a small block rolled up on the end of a strip of gold, and force this into its proper place ; then, with a sharp pointed plugger, carry in layer after layer until the cavity is well filled. It is well to have at all times a small strong spear-pointed plugger, to introduce the last folds of the gold. An instrument well adapted for the commencement of a filling, will not always be at all suitable to finish with.

“ I have alluded to one form of central cavity, which requires at this time a passing notice. This is where the sutures or fissures crossing the molar teeth, particularly the interior, is the seat of disease ; and this follows these sutures to their extremes. But here they dip somewhat deeper than in their entire course ; and the disease has here made progress somewhat in proportion to that at the centre. This condition of things will often make one pretty large cavity in the centre, with two, three, or four smaller ones running into this, here, taking an inferior molar for example, I should fill the posterior first, second the inner, third the outer, then the centre, finishing on the anterior. I wish always to fill that portion of the cavity farthest from me first, because in this way I retain a perfect view of that portion yet unfilled, and can see that my blocks or folds of gold are properly arranged.

“ I have not alluded to other instruments than the speculum for holding the tongue in place, and keeping the tooth dry, because I have found none which would compare to this for general use. The corner of a napkin neatly folded, and thrown around the posterior molar or dens sapientia, so that the end shall be on the outside against the cheek, the larger fold then is over the tongue. A pledget or two of cotton

may still be forced in around the tooth to be filled, this will absorb any saliva, which might otherwise reach the cavity. This, however, is done after the speculum is placed over the napkin. A description of this instrument is unnecessary, for I believe it is generally used. It is held in place by the patient, and if properly constructed, and placed in the mouth so as to produce no pain when pressed upon, is of incalculable service. It is, however, only applicable to the teeth of the inferior maxillae. The same difficulty is not generally experienced in keeping the superior teeth free from moisture, during the operation of filling, yet even here we sometimes meet with difficulty.

"Some place a large piece of cotton on the labial surface of the teeth; hold this in place with the fore-finger of the left hand; with the thumb resting against the palatal surface of the tooth; or reverse this order of things when applied to the teeth of the right side. Others use a cheek holder made of pearl. This at times may answer a good purpose, yet it keeps the left hand too far from the teeth, so much so that it can be of no service in handling the gold. The corner of a napkin used as the piece of cotton, I have generally found sufficient, and full as convenient. Custom in this as well as in almost every thing, will generally give success and choice of the method used. In the upper teeth, as we advance back in the mouth, difficulty of access and consequently of filling increases. The manner of preparing the gold, of introducing and compressing, has been described. This is applicable to the use of gold; also tin when used in blocks. But I have generally found this metal in foil to possess so little adhesiveness, that the folds will not well adhere together; hence when using this article other than in blocks, I have cut in broad strips and rolled in cylindrical form. Of late years, however, it is so little used that I have taken no special pains to test the best method of using it, unless, indeed a few large fillings inserted in the form of blocks; these soon acquired a solidity of surface, and bore a better finish than I have usually expected from this metal. No amount of labor, however, can make it as hard as gold. After the filling has been introduced and consolidated, the projecting foil must be cut to the proper level, and thus prepared for a proper finish. This is done with files and scraping instruments, so constructed as to accomplish this object with very little trouble. The perfection to which files have been made for this purpose, the warmest gratitude of the profession is due Mr. Murphy, the manufacturer, as well as those of our brethren, who have taken the pains to form, and labor to supply him with the requisite patterns. With these instruments the plug is cut down level with the margin of the cavity; then with slightly blunted pluggers, pressure is made around the centre border of the filling. The edges trimmed of all roughness. The plug must be trimmed so that the antagonizing tooth will strike upon it."

To be continued.

COMMUNICATION FROM DR. E. PARMLY.

To the Readers of the Dental Recorder.—In all I have done, said, and written on the subject of amalgam, I will here say that I have had no personal interest to subserve, and no personal feeling to gratify, farther than they have been connected with the good of a profession that I have wished to see honored, instead of disgraced, and to prevent as far as I was able to do so, the further adoption of the most abominable, and destructive practice that ever crept into the dental, or any other profession. The opposition that I have met with, has been rank, fierce, slanderous, and abusive; and in many cases regardless of common fairness, and common truth. To illustrate this I shall (having Dr. Allens' permission to do so,) make a few observations on Dr. Allens' last article, which is the most respectful, and the fairest he has ever written, and I will do him the credit to say that I believe with his notions of right and wrong, he meant to make it perfectly fair and perfectly just; I do not so consider it—"Judge us then ye masters." I will take up matters in the order in which they occur: (A)

"Dr. Parmly accuses me of refusing to publish his article in July, 1848, and then promising not to mention his name again in the Recorder, which promise, he says, 'has not been kept.'" I accused Dr. Allen of breaking his promise, for he certainly did break it. How he understood the promise I know not, but it was made exactly as I have said, and in no other way, and I can only come at a man's understanding by his words. In the last Recorder Dr. Allen says, referring to the time when the promise was made, "I then promised that his name should not appear again in '*connection with that controversy.*'" In a note to me, February 11th, he says, "he (Dr. Allen) promised that no farther article should be admitted against him, (Dr. Parmly) nor the subject (of the controversy, as I understood it,) alluded to by (himself) the editor." Now Dr. Allen does not mean to say that he uttered the two sets of words, so widely different, at the same breath, but he does say it. The truth is, the words of these two promises never came from his lips to me; he might have so meant them, and he might have so understood them, but even if he did, he has broken them both, as well as the one he did make, for he has "*mentioned my name,*" "*admitted articles against me,*" and many times "*alluded to the subject.*" One allusion of the many is sufficient to prove my statement, which I here subjoin. Dr. Allen says, "Notwithstanding all the clamor against its use (amalgam) by those who aspire to be leaders in our profession, and notwithstanding the insulting and libellous circular published by Dr. E. Parmly and his clique, in which they deny the *honesty* of those who use it, still the demand for amalgam fillings among the intelligent classes of the community, has been constantly on the increase—such is the universal testimony of all who use it." Now if Dr. Allen were to fill his paper with things that do not, as he says, "*look reasonable,*" they would not alter the simple fact of his promise not to mention my name again, nor prove that he had not "*alluded to the subject,*" and had not "*admitted articles against me.*" (B)

"Dr. Parmly says on being informed of the length of my answer, the editor with his sense of justice, after publishing one from an opponent, refused to print it." I certainly do say so, and these are the facts: The very day the December number of the Recorder was delivered, (January 10th,) in a note to Dr. Allen I requested to know if he would publish a reply from me to Dr. Burdell's letter; he said he would, and sent word that he would be absent from the city a week, and wished the answer might be ready on Saturday the 18th. On that day I sent to his house, and he had not yet returned. On Monday morning, 20th, I sent again to let him know my answer was ready, and in order that sufficient room might be reserved, I mentioned the length, which I said would be from four to six pages (not of the Recorder) of manuscript. Dr. Allen sent me a note the same morning, saying "Dr. Allen has not got room for so long a communication." Hear then Dr. Allen's statement in the Recorder of this matter. "When more than half of the January number was in type, Dr. Parmly writes me again, saying his reply would '*occupy*' from four to six pages." Carefully leaving out the word *manuscript*, and adding "*occupy*" to my sentence. Is this just, true or fair? I also requested Dr. A. to publish without "editorial remarks," my reason for doing so was, the extreme severity and injustice with which he had treated me previously in his "remarks," which I consider wholly uncalled for. His refusal to publish I consider unfair, and his conduct uncourteous in dictating as to the length or the character of my reply to an article which he had published, (in the very face of his acknowledged promise not to do so) against me, particularly as I had asked the privilege of publishing the very day the article was issued from the press. And, moreover, had the answer ready the very day he himself specified, and more particularly do I feel this injustice as I have since been informed that he said he would publish the article if I would pay for it as an advertisement. It would seem then that for *pay* there would have been *room enough*. (C)

"Dr. Parmly accuses me, on Burdell's authority, of publishing Dr. Burdell's letter '*with alterations*.' This, to say the least, is *stretching* the truth." I do so charge him, and these are the facts. When I saw Dr. Burdell's letter I at once told Dr. B., in a note, (January 10th,) that he had not used in his letter the language I used to him—that I never said the society was formed *for* an amalgam society. He, in a note, denied so writing it, and said it had been altered, and called upon Dr. Allen for the manuscript, which Dr. Allen said could not be found, but when it was found at the printing office, the alteration proved to be in Dr. Allen's hand writing. Previously, however, to finding the manuscript, Dr. Allen sent me a certificate of which he says, "I procured from the printer a certificate of the fact of Burdell's reading his own proof, and sent it to Dr. Parmly." Now the certificate Dr. Allen speaks of is in his own hand writing, which certificate declares that "Dr. Burdell corrected and *altered* the letter." When I found out that Dr. Allen *altered* it, I wrote to the printer that he had signed his name to a falsehood, and soon after I received a letter from the printer, of regret for having done so, which letter does much credit to his head as well as to his heart,

and for which I sincerely thank him.* Dr. Allen says he made but *one* alteration. Dr. Burdell says he made more. That *one*, however, was the *only one* which attributes to me what I never said, and my reasons for saying *alterations* was, I saw in the original copy first given to Dr. Allen, more than forty words in Dr. Allen's hand writing. The denunciation in my letter pronounced upon mutilators of others language, was meant no more for Dr. Allen than for others who have misquoted and misrepresented what I have written. I now ask Dr. Allen upon what grounds he charges me with "*stretching the truth*," and "*misrepresenting the New York Society, and the Dental Recorder*." I certainly never have said, and never will say any thing I am unable to prove, either against Dr. Allen, the society, or the Recorder; and I feel extremely sorry I can prove so much. (D)

Dr. Allen, in speaking of those who use amalgam indiscriminately, as well as in "*certain cases*," says "Here are two distinct classes of dentists, saying amalgam is better than gold—those in the first are ignorant, empirical, and knavish; (I thank you, Dr. Allen, for your candor: the very names I have given them,) those in the second, scientific, skillful, and honest." Now my misfortune has been, although I have been looking at amalgam stoppings for the last ten or twelve years, never to have seen one from the "second class" where the least professional skill was either exercised or required in putting the amalgam into the tooth. I agree with Dr. Allen in the proper and just distinction he makes among dentists, and that there are, we all know, "*of the craft*," two classes very distinct from each other; but I do most positively deny that there has been in this city hitherto a class of men who have used amalgam within the limits prescribed by Dr. Allen, and I call upon him to prove his assertion, and mention their names—even the name of *one* man who uses it "*only where gold cannot be used*." If there is one man in these United States who follows the rule prescribed by Dr. Allen (which is certainly the best I have seen) I should like to know who he is, for I have never known any such person, unless the patients belie their dentists. I published, as an act of justice, some years ago, the circular spoken of by Dr. Allen. The dentist to whom it refers, I have lately been told, *now* says "The amalgam he first used was *bad, very bad*, but now he uses a better kind." I knew it "*was bad, very bad*," then, and the "*better kind*" I have not yet seen, but should like to see it. If dentists were honest in the use of amalgam, and would follow Dr. Allen's rule, "*the demand for amalgam fillings would be constantly on the*"—*decrease*. (E)

Dr. Allen charges me with voting to expel Dr. Lovejoy† from the

* If I rightly understood the certificate, to which Dr. Parmly refers, it simply affirms that during the setting up of Dr. Burdell's letter to Dr. Parmly, he (Burdell) came to the printing office and made *an alteration* in it, that he came again and read the proof, and that Dr. Allen did not see it again until the whole edition was worked off. I do not pretend to give the exact words, but this is the substance of the certificate as I now recollect it, all of which is true. In his statement of my writing him that I was sorry that I had signed my name to a falsehood, I am misrepresented. J. R. S. Printer.

† I have written to the secretary for the names of all who voted on that occasion, to know if mine was recorded.

society because he would not give up his right to use it. I deny the charge, and call upon Dr. Allen to prove what he has said. I do not remember ever voting for the expulsion of any member since the society was organized, nor has my vote been needed to effect that object. Dr. Lovejoy was with others, without personal or unkind feeling from any one, expelled by a resolution of the society, previously made and I believe unanimously adopted in relation to the use of amalgam, by its members; and my duty was to see such rules and resolutions enforced and carried into effect, however much I may have regretted to see such men leave the society. (F)

I have never, to my recollection, spoken of individual or isolated cases. I have on general grounds uniformly condemned amalgam *as a stopping for teeth*, and so I understood Dr. Baker to condemn it, when I used the language quoted by Dr. Allen, and for the sake of proving the point I will quote Dr. Baker's language; he said it was "a bad filling," "the worst kind of a filling," "a nasty filling," "and the worst thing in the world to fill teeth with, except as a filling for the mere shell of a tooth that would bear nothing else." Will Dr. Allen show when I ever condemned it in stronger language, or reflected more severely on those who use it in any other way? Dr. Allen says he cannot "find one single case in which he (Parmly) admits that any man may honestly use it, even if he don't say it is better than gold. If this is so—saying nothing of the sin of commission, as his language and acts speak for themselves—has he not been guilty of the sin of omission? If he believed that it could honestly be used in any cases, ought he not to have made those exceptions, and cleared all who only used it in such cases, from suspected dishonesty?" I would say, in all confidence and honesty, that if such cases *only* "*cleared*" a man from "*suspected dishonesty*," there is not a user of amalgam in this city who would have "*clean hands*." I have not excepted such cases because I have known no such cases to except. I have never to this hour seen a tooth filled with amalgam where, as far as preserving the tooth is concerned, gold, tin, or lead would not have answered better. I therefore, on that head, with all the sins Dr. Allen has charged upon me, have not the sins of commission or omission to answer for, nor have I any apology to make to amalgam, or those who use it, for neglect of respectful acknowledgement of its virtues, or for the benevolent designs, or the pure motives claimed by dentists in the operations that are continually coming under my notice. I begged of Mr. Lovejoy some years ago, when he had such an operation—a *good one*—to give me a chance of seeing it, and, although he is a near neighbor, and with me on friendly terms, he has not yet done it; and I have never yet been gratified with seeing even one solitary case from the "*second class*," deserving the names scientific, skillful, or honest, as far as preserving a tooth. (G)

The quotations made by Dr. Allen from my previously published articles are, I believe, all correctly made, which I feel pleasure in acknowledging. I have never changed my opinion from what I have before written, in the slightest degree as to the effects or unsuitableness of

amalgam as a stopping for teeth. I have never *approved* of it in any cases and have within the past year seen more of its evil effects than any previous year since its introduction into this country by the Crawcours. I have more than once been charged with saying "that every man was *dishonest* who used it even in extremest cases." I have never said so, and never thought so, and in my last article in the Tribune, I denied the charge, from which denial some have said I have changed my opinion, and *now approve* its use. I do not *approve* of it, for as a stopping it cannot be made free from deleterious and often baneful effects. The only case where I ever knew it to be of service, it completely destroyed the life of the tooth, which was perfectly healthy (being only worn by a spring) when the amalgam was put into it—which life would have been saved if it had been filled with gold, tin, or lead, or even with our friend Hill's stopping. This circumstance of killing the tooth, Dr. Allen did not think worth while to mention when he quoted my language. That it may be used with comparative benefit but not without risk. Some years ago I knew a lady in this city who wore an upper set of artificial teeth upon a *brass plate*, and she told me she "wore them with great benefit and comfort, and without any inconvenience except a very bad taste in her mouth, until strawberry-time, when on eating strawberries, (from the acid corroding the plate) her mouth became filled with small ulcers." Now if I were to say brass plates might be worn with comparative benefit, but not without disadvantage or risk, I cannot think that Dr. Allen, or even my worst enemy among amalgamists would say I either approved or recommended *brass plates*—but they might with as much truth and justice say so in the one case as the other, for I think in proportion to the surface they occupy in the mouth, one is as objectionable as the other. (H)

I have endeavored to state these matters fairly, and with many thanks to Dr. Allen for generously inserting so long an article.

I am most respectfully yours, and at the same time am an uncompromising friend to dental science,

E. PARMLY.

No. 1 Bond-street, March 13th, 1851.

Remarks upon the above.

BY THE EDITOR.

(A) Dr. Parmly should remember, while complaining of the opposition which he has met with, that he, himself, cast the first stone, by publishing in a daily paper a "rank, fierce, slanderous, and abusive" article, saying that he had no confidence in the integrity of those who use quicksilver for stopping teeth, and could not recommend them as safe persons to apply to as dentists. Here he sowed the whirlwind, and should be the last person to complain if it yields him a plentiful harvest of storm. The credit which Dr. Parmly gives me (over the left) I fully appreciate, and shall feel that our "masters" are very indulgent if they judge my justice and fairness by no higher standard of

right and wrong, than is illustrated by Dr. Parmly in the article now before them.

(B) One word more in reference to the promise. I have never pretended to state exactly the words that were used when that promise was made, I only know the meaning and intent of it. In a note to me, dated November 1, 1850, alluding to a promise which I had made to another gentleman, by his request, not to mention his name in connection with a certain transaction, Dr. Parmly says, "you told me that Mr. C—— had made a *similar request*." This is exactly as I understood it; both the requests and promises were similar, and each referred to but one subject. The unpleasant and personal controversy between himself and another dentist in the Dental Recorder, was the subject which I promised not to allude to. To show that at the above date Dr. P. held the same opinion, I will quote farther from the same note, (as he has taken a similar liberty with mine,) "You declined publishing my last article, when you said that you would not publish another against me, nor would you mention my name again *in connection with the subject*." If the promise were as Dr. Parmly now interprets it, I should consider it my duty to break it, upon the principle that a bad promise is better broken than kept. I have no right, while editor of the Dental Recorder, to promise not to allude, in my editorial remarks, to the professional opinions or actions of any dentist. It is my duty to my subscribers to keep them informed upon all these, which I have tried to do. But, says Dr. Parmly, "he has '*mentioned my name*,' '*admitted articles against me*,' and many times '*alluded to the subject*.'" Now what was *the subject*, to which I promised not to allude, not to mention his name in connection with, and not to admit articles upon, against him? Why, evidently, the subject about which he held a controversy with another dentist (Dr. Baker) in the Dental Recorder. What was it? This, it must be confessed, is about as difficult to answer as it would be to tell what the two Kilkenny cats fought about; but one thing is certain, it was *not* about the merits or demerits of amalgam, nor the honesty or dishonesty of those dentists who use it. This was *not* the subject, and the extract published by Dr. Parmly as "one allusion," is, therefore, no allusion, but was written in reference to a circular published by Dr. P. some months before the controversy commenced in the Dental Recorder. Dr. Parmly must try again before he proves that I have ever alluded to "*the subject*."

(C) The readers of the Recorder will see that this statement of Dr. Parmly, respecting my refusal to publish his answer to Burdell, does not

conflict with mine. The word "occupy" is used in place of "be," and the word "manuscript" left out, (each page of which, written close on foolscap paper, is nearly equal to a leaded page in the Recorder). He complains of the severity of my remarks, and I complain of the unfairness of his. He thinks me uncourteous, I think him exacting, for expecting me to publish gratuitously, from four to six pages in reply to less than two, when I had sent word to him that the reply must be but little longer than the letter. He could pay one shilling a line for inserting it in the Tribune, but seems to think it very unjust that I should make room on my advertising sheets, and insert it for half that "*pay*." I, on the contrary, feel that he ought to be thankful for the offer which I made, to publish a reply longer than the letter itself without any pay. While I have charge of the Recorder I shall claim the privilege exercised by every other editor, of dictating either the length or character of any article admitted into its pages.

(D) Dr. Parmly is evidently here writing about something which he does not understand. The simple facts, in answer to these misrepresentations are, 1st. I made but *one* alteration, and on *this ground* I charge him with *stretching the truth*, by writing it "*alterations*." 2d. Dr. Burdell went to the printing office afterwards, made an alteration himself, as certified to by the printer (in my hand writing to be sure, but none the less true on that account). 3d. The printer signed his name to the simple truth and nothing but the truth, as he now asserts in the note to Dr. Parmly's article. 4th. Dr. Burdell has repeatedly told me, once in the presence of Mr. Laird, at the rooms of Messrs. Jones, White & Co., that he assured Dr. Parmly, before he published his letter in the Tribune that I made but one alteration. If Dr. Burdell now says that I made more than one, he tells that which is not true, if not, the falsehood rests upon Dr. Parmly. I leave them to decide which shall father it but they shall not put it upon me. 5th. The old letter, containing "more than forty words" in my hand writing, was altered by the consent of Dr. Burdell, (given in presence of Dr. Geo. E. Hawes,) and was in my possession until after the second letter was written and published.

I charged Dr. Parmly with misrepresenting the New York Society, by saying that he regarded it as an Amalgam Society, when it is not and never was. The same reasoning which he adopts to prove it an amalgam society would justify me in calling the American Society a tin society, and its members tin dentists. Dr. Parmly has also misrepresented the Recorder in the following extract from his article in the Tribune.—"I have believed from the *Recorder* that the Society both

approved and recommended it very largely." I challenge him to produce from the Recorder a sufficient number of texts to rationally found any such belief upon.

(E) Dr. Parmly is very ready to coincide with me in condemning the *ignorant, empirical, and knavish*, embraced in the first class, but when he comes to the second, the *scientific, skillful, and honest*, as usual, he does not admit that there are any such who use amalgam, but flies from the subject, and talks about no skill being required "in putting the amalgam into the tooth." He admits two classes of dentists, and then flies from the point again to deny that there is any class who use amalgam "within the limits prescribed by me." I have never stated that there was such a class, and have therefore no assertion to prove, nor have I ever stated that there was one in the world who used it "only where gold cannot be used." Stick to the point, Dr. Parmly, and either deny or affirm that there is a class of scientific, skillful, and honest dentists, whose common practice is to use gold, but, who, nevertheless, find a small proportion of the teeth requiring to be plugged, in which they use amalgam "*saying it is better than gold.*" This is my stand-point. If Dr. Parmly chooses to come up to it, he is at liberty to say they are, in his opinion, *mistaken*; but he has no right to say, or imply, that they are *dishonest*.

(F) Dr. John Lovejoy was expelled by the following resolution, which never saw the light until the day it was passed:—"Resolved, that Dr. John Lovejoy be, and he is hereby expelled, from the American Society of Dental Surgeons, for refusing to comply with their positive mandate, in *using* and refusing to discontinue the use of amalgam for filling teeth." I charge Dr. Parmly with audibly saying "yes," when the yeas and nays were taken on the above resolution, and I boldly and positively affirm that he did so vote, for I sat within ten feet of him, and plainly saw and heard it. Furthermore, I prove it by Drs. Lovejoy, J. B. Rich, B. Lord, and G. Merryman, who have within one week expressed themselves as decidedly upon this point as I now do. Dr. Edward Larouque, also present, writes me "It is my firm conviction that Dr. Parmly *did vote* for the expulsion of Dr. Lovejoy." Another member who voted for the resolution of expulsion, writes me "Had I been asked the question, without any doubt being raised, I should certainly have answered in the affirmative, this having been and still being my impression." Still another, who voted aye on the resolution, assured me that he did not recollect anything about it. Thus much for the

proof. Dr. Parmly can now cross-examine the witnesses as much as he pleases.

(G) Here Dr. Parmly flies from the point again. The question is not whether he has seen a "solitary case" from the *second class* of dentists, specified by me, "deserving the names scientific, skillful, and honest;" but whether he has not seen amalgam fillings put in by dentists who were scientific, skillful, and honest. In other words, are there not scientific, skillful, and honest dentists in the world who use amalgam for filling teeth? (This was the main point in my article, which I requested my readers not to lose sight of, and which Dr. P. dodges just as often as he comes near). If Dr. Parmly will answer this question in the affirmative, he can go on and abuse the ignorant, empirical and knavish, with as much "earnestness and force" as he pleases. I will bid him God speed and join heart and hand with him in the noble work of elevating and improving a profession which I love, and which I desire to see honorable, united, prosperous and useful.

(H) There are many other things in Dr. Parmly's paper in the Tribune which I did not think worth while to mention, because I thought that any person with brains would see the inconsistency of them. I have had several cases in my own practice where *gold* fillings put in very near the nerve, although it was not exposed to the gold, have caused it to inflame and die. One case is fresh in my recollection where I filled the tooth, and after a year or two extracted it, (on account of ulceration,) removed the filling, examined the bottom of the cavity, and know that the nerve was not exposed when it was filled. I have never known such a case where amalgam was used, though such may have happened. I have five live teeth in my own mouth filled with amalgam, two have been filled about a year, two three years, and the other six. The last when filled was decayed so near the nerve as to make it very doubtful whether it was exposed or not; Dr. Parmly has seen it at three different times, and I can assure him that it is now as healthy as it was the day it was first filled, and no more discolored than when he last saw it. I presume he has seen hundreds of cases in which amalgam had been put into teeth with healthy nerves. In what proportion of these did the amalgam destroy them?

I have thus endeavored to reply to some of Dr. Parmly's misrepresentations and false reasoning. If he wishes for another opportunity to reply to me he can have it, but in his next, I hope he will either come with proofs, confine himself to facts about which there is no dispute between us, or give the result of his *opinions* on professional subjects,

which I shall always take great pleasure in laying before the readers of the Dental Recorder.

WANT OF FAITH IN LARGE GOLD FILLINGS.

CONCLUDED.

In our last number we endeavored to describe our method of filling large cavities with broken edges on the approximal surfaces of molars and bicuspid, and it now remains to describe the method of inserting the gold in similar cavities on the approximal edges or surfaces of the incisors and cuspids. We have also spoken of the prevailing practice of cutting off these teeth when badly decayed and replacing them by artificial crowns. Thousands of teeth are sacrificed in this way, for the want of faith in the dentist, which with patience and skill might be preserved for many years. Our motto has always been that half a natural tooth well filled is better than a whole artificial one. Unless the patient cares more for looks than usefulness, cleanliness and comfort, we always aim to fill every canine and incisor tooth which comes under our care, if there is a possibility of a chance for it to retain the filling.

In the cuspides, when badly decayed, the case often becomes complicated by the side of the cavity, towards the end of the tooth being entirely broken away, as in the molars and bicuspid, (of which we have spoken) while the front and back, or the lingual and labial sides, owing to the great thickness of these teeth, remain more or less perfect. In these cases we must depend almost entirely upon that part of the cavity towards the gum to sustain the entire filling. For this purpose holding points must be cut on the front and back parts of the cavity deep into the thick bony portion of the tooth, in the direction of the front and back so as to avoid coming in contact with the nerve. The remaining portion of the sides of the cavity should also be cut under as much as possible. This being accomplished in such a manner as to take all the advantage possible of the remaining parieties, one end of a large pellet of gold, long enough to reach from the upper part of the cavity down quite to the end of the tooth, should be forced into one of these depressions as solid as possible. As there is often considerable difficulty experienced in making the first piece introduced remain quiet in its place until the second and third are introduced, we always aim to place it on the side of the cavity, either front or back, where it will stay best, this is generally the back, as the adjoining tooth will frequently assist. When, however, it cannot be made to stay in its proper position it must be secured, by a small instrument held in the left hand, until

the second piece is introduced and pressed into the opposite depression, or holding point, where it can be held by the same instrument if necessary. The third pellet of gold should now be forced between the upper ends of the two first, in the direction of the gum, and in such a manner as to secure them in the depressions cut in the upper or gum portion of the cavity. We now have that portion of the cavity towards the gum filled solid across from the front or labial side to the lingual, and as far down towards the point of the tooth as the deep holding points in the cavity extend, while the remaining portions of the first and second pieces of gold which were introduced extend still farther towards the point of the tooth. These pieces should now be pressed apart towards the remaining front and back parieties of the cavity, and the space between them filled solid in the bottom of the cavity, but not so full but what portions of the original pieces, which are secured in the upper part of the cavity, may be turned in and condensed over them. In this way every portion of the plug is locked and tied together so that one part cannot come out without the other. This method of inserting a filling is equally applicable to the incisors when the corner of the tooth is so much broken away that a holding point cannot be had near the cutting edge.

In the incisors it oftener happens that the parieties of the cavity are broken away on the labial and lingual sides, while those towards the gum and cutting edge remain firm and strong. When this is the case the holding points will be above and below. In these cases we place the first piece of gold in that part of the cavity towards the gum, selecting one large enough to extend considerably out of the cavity towards, or quite to, the adjoining tooth. This we force into this part of the cavity with an instrument bent at a right, or slightly obtuse angle, in the direction of the gum, taking great pains to condense it into the upper and posterior corner. The second piece of gold is forced in an opposite direction, or towards the front of the tooth. It is important that both of these pieces should extend over the edges of the cavity, both front and back, and towards the next tooth. The space between these two pieces of gold must now be filled solid, but not so full but what the remaining portions of the first two pieces may be turned in and condensed over them. After the gold is partly condensed the fillings should be examined all over with a very small point, and if there are any places so soft as to admit more gold, it should be inserted before it is fully condensed.

Too much pains cannot be taken in finishing the surfaces of these large gold fillings, as the whole success of the operation depends upon

having every point between the gold and the edge of the cavity perfect. The part where they are most generally imperfect is, in the upper teeth, the superior and posterior portion, and the corresponding point in the lower teeth. As gold cannot well be added to this part of the plug after the cavity below is filled, and when the adjoining tooth is in situ this imperfection can only be guarded against by filling this part considerably more than full at first and forcing the gold upwards and backwards with great care, and then, while condensing, by using a very small point and forcing in as much of the remaining portion of the gold as possible. In this way it may be made as perfect as any other part of the filling.

By adopting the principles which we have here attempted to describe, in an intelligible manner—no easy matter, by the way—we have been able to fill, within the past few years, many teeth which have been condemned by men who could have filled them, if they had had faith enough to try, quite as well, perhaps better than we have done. In very frail teeth we have derived great assistance from the use of plaster of Paris as described in Vol. 3, p. 21 of the Recorder.

The tooth there described, which was the frailest we ever saw filled, is still good and bids fair to remain so several years longer.

Errata.—In our last number two errors occur which obscure the meaning of the sentences. On page 123, line second, for “or” read *and*, and in the eighth line for “point,” read *front*.

BOND'S DENTAL MEDICINE.

A Practical Treatise on Dental Medicine, being a Compendium of Medical Science, as connected with the Study of Dental Surgery, by THOMAS E. BOND, A. M., M. D. Professor of Special Pathology and Therapeutics in the Baltimore College of Dental Surgery. Phil., Lindsay & Blackiston.

The above is one of the most important works which has ever been published in connection with the science of Dentistry. Heretofore this specialty of Medical and Surgical science has been taught in the offices of practicing dentists, not as a science but as a simple art, and the great mass of dentists now in practice are not Dental Surgeons but Dental artists or artists in teeth, as some barbers dignify themselves with the title of “Artists in Hair.” What would we say of an oculist, who only understood the mechanical parts of the eye, and only practiced *regulating* the eyes of children, *separating* the muscles to cure strabismus, *filling* them with caustic, astringents, cold water, &c., *extracting* cata-

tacts, and *inserting* glass eyes? In other words, of one who treated the eyes as simple apparatuses detached from the rest of the vital machinery? Of an aurist, or an absteritrian who practiced upon similar principles? Would we dignify such a man with the title of Doctor? Now, although the diseases of the general system which are caused by derangement of the teeth may be of a less acute character and less dangerous to life than those of the eye or the uterus, still a knowledge of their causes, nature, and treatment, is not less important to the success of the Dental Surgeon than if they involved the most serious and dangerous consequences.

"The purpose of the present work," says the author, "is to treat of dental surgery as a distinct and proper specialty of medicine, and to present to the reader a digest of information, prepared with particular reference to the morbid connections certainly existing between the teeth and the rest of the body." It treats of the causes, nature, and treatment of disease, with special reference to practical dentistry, and should be in the library of every practicing dentist, and the first text book put into the hand of his student. For sale at Jones, White & Co.'s. Price \$2 50.

ALCOCK'S TEETH.—Mr. James Alcock has recently sent us specimens of his mineral teeth, in which he has made some improvements upon the old form and manner of making. Some of these are long lower molars, having the inner cusps longer than the outer ones, so that when put upon the plate, inclining inwards, to antagonize with the upper ones, the grinding surface is level. They are also supplied with *three* large sized wires, which makes them much stronger than when there are but two. There are also specimens of gum teeth for whole sets, made in blocks of two teeth each, which is a great improvement over the single teeth. Mr. Alcock has ever been among the foremost in striving to supply the profession with excellent teeth. We trust he will not relax his efforts until every shape and form required is produced.

TO CORRESPONDENTS.—We have received Dr. H. Burdell's letter on amalgam filling, which will appear in our next number. Several other communications are omitted for want of room.

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No. VII

FILLING TEETH.

We continue the republication of Dr. Taylor's instructive article on filling teeth, from the Dental Register of the West. The writer has evidently spent much time and thought in writing this address, and it is worthy the careful perusal of all our readers. The class of cavities described in the present extract is the labial, a class in which, in proportion to their frequency, operations are more apt to fail than any other; at least such has been our observation and experience. We allude more particularly to that subdivision of the labial cavities which Dr. Taylor calls the transverse, following the line of the edge of the gum, and often extending from one approximal surface to the other. The small, pin head cavities of which he speaks, generally arise from some congenital defect in the enamel, so that when well filled the remote cause of decay is removed and the filling is generally permanent; but the transverse or semilunar cavities near the edge of the gum appear to arise from purely chemical causes, which are not removed by the most perfect fillings. We have seldom, if ever, seen a tooth badly decayed in this manner, in a young subject, and far back in the mouth, which had been preserved for any great length of time with gold fillings. The corrosive agents which originated the decay being still present and as active as ever, soon decompose the tooth around the filling and the disease extends as it did before the operation. This class of cavities, when large and situated in the molar teeth, especially the second and third, is one in which we do not hesitate to recommend amalgam, "*saying it is better than gold.*" We have repeatedly seen these cases treated with gold fillings by those who enjoy the most exalted reputation of any Dentists in this country, where the operations proved to be, in a few years, perfect failures. In fact we do not recollect ever to have seen a single case in which a tooth of that peculiar soft structure, so pre-disposed to rapid decomposition, has been permanently saved by a gold filling. In many cases the tooth seems to decay quite as rapidly after the filling as it did before, and in some we have thought more rapidly. In these cases the amalgam seems to exert an anti-septic influence upon the surrounding bone and enamel, which greatly retards, if it does not

wholly arrest the progress of the disease. In the meantime the diathesis of the tooth is changing, or the acute stage of the disease passes over, when, if necessary, the tooth may be refilled with either gold or amalgam, and permanently preserved. In these cases we willingly incur the censure of some of our professional brethren, by using amalgam, because we most religiously believe it is the best practice.—*Ed. Rec.*

“Before I give any special directions as it regards the finishing of this important operation, I will take up the other classification of cavities which I have given. I do this because the finishing of a plug requires about the same manipulation in all cases. The next locality of cavity is the second in my classification, or the labial. This location of disease is not of so frequent occurrence as the central or approximal; yet of so frequent occurrence as to demand a separate description. They appear to be the result of two or three physical conditions of the teeth and fluids of the mouth. First, we have of the teeth, and especially of the inferior molars, and sometimes it is true, of the superior—an extension, as it were, of the transverse suture running from the centre of the tooth to the labial surface; so that the tooth appears to be divided by a medial line. Decay may take place at any point on this line, and be in its general character the same as that originating from the same cause, and located on the grinding surface of the tooth. But when we advance forward and find cavities on the labial surface of the teeth, we generally find them located nearer the margin of the gum, and often dipping beneath its free edge. The thin edge of enamel which terminates at the neck of the tooth has been destroyed by some corrosive fluid, or the gum has receded, leaving the bony structure exposed, so that we have a softening of the dentine and a shape of cavity running transversely of the tooth, and if the disease has been permitted to extend itself, we shall have a cavity the shape of a half circle with its base formed by the enamel and bone and the circular line extending around under the gum. This decay is not, however, always thus circumscribed, for at times it may be found entirely confined to the enamel portion of the tooth, forming a round pin head cavity. The teeth most subject to this form of decay are, I think, the front upper incisors, next in order the lateral, then the canine and first bicuspid inferior, then the canine superior, and molars inferior, &c., &c. The preparation of all these cavities cannot well be accomplished with the same instruments or in the same manner. The small round pin head cavities after having been thoroughly examined and the enamel removed which covers the decay, can be very neatly and expeditiously prepared for filling with a small burr head drill. If the cavity does not penetrate deep into the tooth, the burr head should be flattened to represent a half sphere. (They are in too common use to need a description.) A drill of this description will, if selected of the right size, make just such a shaped cavity as is most desirable when the decay is not partly covered by the gum. These drills should be sharp, for a drill which cuts rapidly hurts no more, if not less, than one which cuts more slowly, or requires considerable pressure to make it cut at all. The only objection to the use of this instrument is, that it produces

generally more pain than the cutting instruments. When this is the case, use the excavators to remove the carious portion, and then shape the cavity with the drill.

“When the cavity runs beneath the gum the drill is not so admissible, first, because the cavity is not so round, and second, as the gum may be in the way, or, too much of the tooth may have to be cut away to make the cavity round. The shape of cavity already described with its base extending across the tooth and its circle extending under the gum, is most desirable; because the decay takes somewhat this form. We will find generally no difficulty here in making the wall of the cavity, which forms the base of sufficient depth to well secure a filling, but that portion which extends beneath the gum will require more care, for as the tooth diminishes in size as we advance on its neck, so will the cavity diminish in depth. If the decay should be deep, the nerve lies close at hand; if not, the upper border of the cavity must be shallow, and this is the first part to be filled. In the preparation, then, of these cavities, we would, after removing that portion of decay most exposed to view, carefully, with a suitable shaped excavator, cut away the decay around the border of the cavity underneath the margin of the gum, and from this portion, slightly bevelling inward, so as to enlarge at this part a very little the cavity within. This is done so that the first fold or block of gold when forced well into its place may be securely retained. A grooved necked cavity is not that which is desired, but simply a bevelled condition of that portion of the wall which is overlapped by the gum. If this is formed with an instrument, the cutting edge of which comes to right angles, a grooved surface to the wall of the cavity will be easily avoided. No condition of decay requires more careful manipulation than the one now under consideration. The plug is more exposed to view, also, the action of the brush, the daily use of which may be requisite to prevent the further progress of the disease. We are often, too, exceedingly annoyed with extreme sensibility of tooth bone.

“These cavities when located on the incisors and bicuspid above or below, although presenting difficulties in the proper formation of the cavity; yet in the filling itself, these difficulties are much increased as we advance back in the mouth, so much so indeed, that the *dentes sapientiae* superior or inferior when presenting labial cavities may be considered among the most difficult to fill of any in the mouth. These teeth, however, when much decayed, and the others in anything like good condition, are scarcely worth an effort to preserve, yet their preservation must depend on their utility for mastication and other purposes, which must be decided by the judgment of the operator.

“The extent of disease in these teeth (the molars and *dentes sapientiae*) will control, as a matter of course, the form of cavity, sometimes a round, and at other times an oblong, shape will be presented; frequently the decay extending from approximal to approximal surface, and when this is the case, great care is necessary in the formation of the cavity. That portion of the cavity having its walls formed by the neck of the tooth

and the solid enamel and bone which forms the cutting surface, will present no difficulty in a proper adaptation to retain a plug, but the posterior wall, also, anterior, will require a little more care, especially when the cavity runs nearly across the tooth, and for this reason: if these are cut with the plane of the wall pointing toward the centre of the tooth, we shall have a cavity running transversely with the tooth, far larger on its outer circle than within, so that the plug would have to be retained entirely by the side walls of the cavity, and the tooth left subject to that very condition of things which we so often see occur after a filling of this kind, viz.: a continued progress of decay running around these teeth, as it were. The cavity not having been properly formed the gold is not so compacted as to exclude the moisture; hence the bone continues to soften at these points. The posterior wall should therefore be made so as to apparently lean forward, and the anterior running in, so as to maintain the size of the cavity within. If these suggestions are properly observed, the introduction of the gold will be rendered less difficult and the filling more secure.*

"Having alluded to the shape of cavities most frequently occurring in the localities under consideration, we will next speak of the introduction of the foil; and first in those last described. Here we take as an illustration, an inferior posterior molar, having a cavity extending quite from approximal to approximal surface. The cavity having been shaped as described, the first difficulty which presents itself is easy of access to the cavity with suitable instruments for filling. The second, exclusion of moisture. The first difficulty can generally be overcome by the use of the speculum, and when this is used the second difficulty is also overcome at the same time. To secure both objects at the same time with this instrument, we would place on the tongue the end of a napkin folded lengthways and so as to give one corner as the folded end; this I would throw around the *dentes sapientiæ*, placing the end next the cheek. The speculum is then secured on this, so that the tongue is held in place, and the folded end of the napkin pressed against the cheek. The bars forming the speculum should be some wider apart than those used when filling central cavities; flattened and widened out and slightly turned up so as to form a cheek holder as well as tongue holder; or the cheek can be held away with the ordinary pearl cheek holder, yet this will not so effectually secure a napkin to absorb the saliva.

* I have occasionally filled these teeth (the inferior molars,) when the decay extended on to both approximal surfaces. I have then shaped the walls of the cavity at the neck of the tooth, and that formed by the solid portion of the crown above, bevelling inward, enlarging the cavity a little within the orifice. This shape of cavity is particularly obtained at the posterior extreme of decay. Where the foil is first wedged in and, to a great extent, consolidated before the anterior portion of the cavity is filled, the first gold here introduced forms the posterior wall for the last part of the plug, and the enlarged condition of the cavity within prevents the first portion of the filling from being displaced by the pressure made in introducing the balance of the plug. The condition of the cavity is such, extending almost half round the tooth, that the plugging instruments can be introduced on a line with the length of the cavity, and the gold thus compacted into this enlarged cavity without any difficulty.

"All admit the importance of keeping the cavity dry, and all must admit the difficulty sometimes experienced in accomplishing this object. That method which practice has made most available should, of course, be adopted by every operator. I therefore merely give the method which I most usually avail myself of.

"These preliminaries having been gone through with, and the cavity dried, the next thing is the insertion of the gold. That method which accomplishes this object in the shortest time—filling up completely the cavity, will, I have no doubt, be considered the best.

"This remark is applicable, especially when we remember that these cavities cannot be kept dry for an indefinite length of time. My former method, and one which I sometimes yet pursue, is done in the following manner: roll up in a cylindrical form as much or more gold than is necessary to fill the cavity; then fold up one end of this roll into a ball as large as can be forced into the cavity; then with a sharp pointed plugger press this into its place, folding in as much of the roll thereafter as is possible. There are objections, I know, to this method, for the quantity of gold first introduced may be too large to secure a perfect adaptation of the foil to every part of the cavity; or the mouth of the cavity may be choked up as it were, before the interior is well filled. I have therefore, of late, more frequently resorted to the plan already described, for the insertion of gold in the central cavities. I would have my blocks of gold so arranged that each would require slight compression with the plugging forceps to pass readily into the cavity. The plugging forceps here used are bent at near right angles. The first block used, however, here, would not always be the largest, but after placing the first block to its place, close the forcep, and using it then as an ordinary plugging instrument, force back the lower end of the block (or that end within the cavity,) to the posterior wall, which, you recollect, is made slightly leaning forward; then with one or two backward motions of the instrument force the protruding end of the block out of the way of the next one to be introduced. Then as each block is inserted, compress back against the first one introduced, completely filling up the cavity as you advance anteriorly, when with a smaller pointed plugging instrument a few folds of the strip to which the last block belongs must be forced in. We are now ready for the compression, and if this can be used with considerable force, before the moisture has got about the gold, the success of the filling is certain.

"The question here may be asked, is the compression which is necessary to be made, to compact these blocks, made with the plugging forceps? I answer, not always—yet, to a great extent, such is the case; but I always have ready one or two of such ordinary pluggers as are most apt to be needed, and occasionally use that which may be apparently demanded to arrange and force into place these blocks, also to make pressure around the border of the cavity and all over the gold, to see if it is well compacted.

"The plugging of these large labial cavities, when located far back in the mouth, with foil cut in strips and folded in with the plugging instru-

ment, I have always considered a difficult, if not almost an impracticable operation. The time requisite to arrange these folds with an instrument, and at the same time compact them in the cavity, is generally longer than such cavities can be kept dry. After the blocks are prepared they are much sooner inserted, and when in, are far more systematically arranged, and to make the plug equally solid, do not require near the same amount of pressure.

“ The filling of these labial cavities seated above the gum and on the medial suture dividing the outer prominences of the tooth, require scarcely a separate description. When not large they can generally be shaped with a drill and filled with a few blocks as described in such cavities when central. Those in the superior molars, requiring different means to hold off the cheek and keep the moisture from the cavity. To effect this, I use, when the posterior molar or *dentes sapientiæ* is to be filled, the common pearl cheek holder, holding the end of a folded napkin between this and the cheek, almost entirely filling and compacting my gold with the plugging forceps; but before displacing my cheek holder, I always use considerable force with my compressing instruments. All these plugs which we have been considering, will first need (after having been as far as possible consolidated,) the free use of the file, so that the gold may be levelled down and rounded to resemble the natural contour of the tooth, and so that the edges of the cavity may also be made smooth with the surface of the gold.

“ We come now to speak of the filling of those cavities on the labial surface of the incisors, canine and bicuspid—those located so far from the gum as to be entirely surrounded by healthy enamel, are generally round, and should be filled when the cavity is small, so as to be as little observed as possible. These are generally shaped with a drill, and when very small can be as well filled by taking four to six thicknesses of No. 4 or 6 gold foil, cut into a strip not wider than the breadth of cavity. The first fold of the gold should be carried to the bottom of the cavity, and each succeeding fold also carried as near the bottom of the cavity as possible, so that these several folds may, when compressed, be like so many wedges. After compression has been thoroughly made, the ends of these folds should be sufficiently prominent to require the use of the file to level the plug to the surface of the tooth.

“ Those cavities circling under the free edge of the gum, require a little different treatment. That portion of the cavity under the gum has not the same depth as that surrounded by the enamel and is slightly bevelled as already described, so that the inner end of the first fold or the first block of gold should be well wedged under the bevelled wall.

“ This portion of the cavity should be first filled, because covered by the gum, and the pressure of the gold is necessary to keep the gum out of the way. If the cavity is large, I prefer the use of blocks for these fillings, and if small, I use the strips as already described, forcing the first fold under that portion of the wall of the cavity formed beneath the gum, and if the cavity is large, placing my first block in the same place, and finishing at that portion of the cavity where the border is surround-

ed by healthy enamel. We have here a cavity so formed that when the gold is well compacted, the filling cannot be dragged or worn out by the use of the brush and the bone cannot well soften around the plug, at least this cannot well take place, unless the gum is absorbed so as to expose the bone above on the neck of the teeth. The shape of the outer surface of the plug should correspond with the shape of the tooth, and should be trimmed around the margin of the cavity under the gum, so that no projecting portions of the gold shall irritate the gum. If this should be the case, the same condition of the gum will soon be manifest as that caused by the presence of salivary calculi.

"Small fissures are sometimes observed running across the superior incisors, apparently the result of an ill formation of the tooth itself, but which has been enlarged by a decomposition of the tooth substance. These should be excavated to suit the shape of the fissure, preserving the appearance of the tooth as well as possible, and then commencing at one end of the cavity, fill up so as to restore the shape of the tooth and prevent further decay. The taste and judgment of the operator must decide the form of cavity most suitable to preserve the beauty of these important organs so conspicuous in the mouth. Decay is sometimes found at the neck of the inferior incisors, canine and bicuspid; yet a further description of labial cavities is now unnecessary."

To be continued.

COMMUNICATION FROM DR. H. BURDELL.

To the Editor of the Dental Recorder—

DEAR SIR :—The February number of the Recorder contains an article under the head of "The Dental Recorder and Dr. E. Parmly," written by yourself and intended as a reply, not only to Dr. Parmly's letter published in the daily Tribune of February 1st, but also as a kind of indirect answer to my letter, published in the same paper of Feb. 3d. In this reply you unjustly charge me with having filled, within a few weeks a superior incisor with amalgam. The circumstances in this case were as follows: Mr. L., a highly respectable gentleman of this city, called upon me several weeks since, for the purpose of having his teeth filled, and otherwise attended to. I found on examination, that a superior lateral incisor had been filled several years since, on one side, with tin foil, and that decay had extended from the other side, involving the whole under portion of the tooth, leaving the tin foil plug only attached to the enamel in front. I told Mr. L. that it would be impossible to fill this tooth with any chance of success. He stated that he would leave the matter with me, to act as I thought proper. At about this time you may recollect, several of the members of the Society of Dental Surgeons, were experimenting with amalgam, and had suc-

ceeded in cleansing and purifying this material to such an extent, that its color did not seem to be a material objection to its use, even in teeth near the front of the mouth, and as a case now presented itself where even if the operation proved entirely unsuccessful, no disadvantages could be realized. I carefully removed the decay and soft parts from the tooth, when I found that the cavity could not possibly be filled with either gold or tin foil, as the enamel in front was all of the tooth that remained. I then took a strip of gold foil, and rolled it up in a form to nearly correspond with the size of the cavity. I introduced the gold and pressed it into the cavity with force enough to bring it into close proximity with all of the contiguous parts. I had just previous to this formed an amalgam, from virgin silver filings, precipitate of silver and pure tin, taking the utmost care to wash the mixture thoroughly with spirits of wine, when the amalgam appeared to be as white as pure silver. I took a small portion of this preparation and cemented the gold and tin foil plugs together, leaving a smooth surface underneath where the fillings were united. I had no confidence in *such* an operation, yet its success so far has entirely surpassed my expectations. I asked Mr. L., after I had finished operating upon his teeth, if he would step with me to the office of the editor of the Recorder, to which he readily assented, and I explained the case to him, not supposing for a moment that any publicity would be given, at least, without stating the attending circumstances. In answer to Dr. E. Parmly's letter published in the Tribune, I gave my opinion founded upon practical experience on the subject of amalgam. I stated "that any preparation in which mercury forms a constituent part ought not to be employed as an *ordinary* stopping for teeth," that the oxide of mercury penetrates the vascular structure of the teeth, and, "although the nerve of a tooth may not have been exposed at the time it is filled, yet from the permeating influence of amalgam, the pulps subsequently become involved and the destruction of the tooth is apt soon to follow." To prove that I have been consistent in my opposition to amalgam, it will only be necessary to refer to the published statements I have made since the Crawcours first introduced amalgam, in 1834, up to the present time. I have used amalgam for stopping teeth in cases where no other material could have been employed with a chance of success, and I shall continue so to do where the advantage derived would seem to be greater than the disadvantages which often follow. Respectfully, yours, &c.,

HARVEY BURDELL.

Remarks upon the preceeding.

The article in the February number of the Recorder was not intended to be, nor was it directly, or indirectly, any reply to Dr. Burdell's letter in the Tribune of February 3d. Our only object in alluding to the operation of Dr. Burdell was to show the unfairness and inconsistency of Dr. Parmly's bandying compliments with a dentist who would, at this late day, put amalgam into front teeth, for the purpose of injuring the editor of the Dental Recorder, misrepresenting the Society of Dental Surgeons of the State of New York, and degrading its officers and members in the estimation of the public, by conveying the impression that we were all interested in propagating amalgam practice—for such is the apparent object of Dr. Parmly's whole letter, so much so, that the society saw fit to order to be published, officially, a true statement of facts to counteract the influence of Dr. P.'s letter. We wished to show that Dr. Burdell was more of an "amalgam dentist" than the editor of the Recorder. Had Dr. Burdell come out like a man and defended the Society, of which he is a member, instead of crooking the pregnant hinges of the knee, and pouring the most ridiculous and fulsome flattery upon its traducer, we should have had no occasion to allude to him or his operations. If Dr. Burdell had also had the manliness to say, in his reply to Parmly, that he read his own proof, and was therefore responsible for any alteration which had been made in the copy, he would have done himself quite as much credit, in our estimation, as he did by acknowledging that he did not see the alteration which "changed the sense considerably" until his attention was called to it after he had read the proof. The fact that he did not see the alteration shows plainly that the sense was not changed from what he intended it to be when he wrote it.

We cheerfully give place to Dr. Burdell's explanation; if he can convince the readers of the Recorder, including his friend Dr. Parmly, that this is good practice we have no objections, we must still enjoy our own opinion. We would not interpose one single word to disturb the harmony which seems to exist between these two gentlemen. We are pleased to see that Dr. Parmly, after the animosity which he has displayed towards some amalgam dentists, can now so cordially embrace and so warmly fraternize with one, who only uses amalgam as Dr. Burdell does, nor would we presume to doubt the sincerity of their affection. If any of our readers, however, are disposed to think that Dr. Parmly is only using Dr. Burdell, under the guise of friendship, for the purpose of injuring the Society of Dental Surgeons or the Dental

Recorder, we beg that they will have no fears, for both are abundantly able to protect themselves against the attacks of open enemies or false friends.—*Ed. Recorder.*

GALVANIZED SILVER PLATES.

Lansingburgh, January 29th, 1851.

DR. ALLEN—

Dear Sir :—I have recently made a whole set of teeth for an old lady, in the following manner. I first mounted the teeth on silver plates, and soldered them with silver solder. I then wet plaster, and with it formed an artificial gum on all sides of the lower set, and on the labial side of the upper, allowing it to fill the interstices, &c. I used plaster instead of wax for the reason that I could more easily give it the shape of the natural gum, after it had hardened. I next oiled the plaster, &c., placed them on a plaster and sand cast, and poured plaster and sand over them as directed in the Recorder. After this became dry, the teeth were taken out and the plaster gum removed, being careful to remove every particle from under and between the teeth. The parts to come in contact with the tin were washed with muriate of zinc, placed in the mould, the whole heated, and the tin poured in, which took the shape of the plaster gum very nicely. I have polished them and given them a good coating of gold, making, as I think, a very beautiful piece of work. But, since reading the December number of your journal I have been hesitating about putting them in the persons mouth, fearing that galvanic action might take place, and produce mischief. As this mode of practice is new with me, I am reluctant to run any risk, and would therefore ask your advice in the matter. Have you made any in this way, and if so, do they work well? I infer from the communication of Mr. Royce that where gold and tin only are used, no bad effects are produced; but that he disapproves of the silver, tin, &c.

Yours, very respectfully,

S. P. W.

We have never constructed a set of teeth upon the principle described by our correspondent. The following appears to be the experience of the writer, in the December number of the Recorder to which he refers.

“My fourth experiment was for an elderly lady—mouth totally toothless; desired the lower denture only, on a very broad inferior maxilla and large alveolar ridge, to match the teeth in a small superior maxilla and gum. This was another nothing or next to nothing pay case; but I attempted to better my former practice, and struck and fitted a silver plate. Set French teeth with silver wire studs soldered to plate: stereotyped the tin gum on the plate; gilded all parts finely and pret-

tily. Thought I had made a fine advance. It was tried fairly for several days, and proved to be a superior sialagogue. I question the superiority of mercury to produce ptyalism.

"My fifth effort was to insert an entire upper and lower denture; lower gum narrow, and summit thin. The teeth were mounted in the usual way on gold plate, except the metallic gum was tinman's soft solder, flowed around the teeth with a tinker's iron. Twelve or eighteen months use showed the gum shelling off—a black and separating mass, like the moss on the bark of a forest tree—another mortifying experiment, but easily remedied by substituting pure tin for tinker's solder.

"The sixth experiment was the same as the fifth, except the lower gum was wider, and silver linings were used, and the tin made to serve both to fasten the teeth and load the plate. The silver linings evinced galvanic polarity, causing frequent pricking shocks to the tongue. Gold lined teeth were substituted, and the shocks obviated."

We can see no reason why there should be any galvanic action produced by plates constructed of silver as described above, nor any cause why they should act as a sialagogue more than an ordinary gold plate, if thoroughly coated with pure gold by the galvanic process. We know a case where a silver plate, made in the usual way, (the teeth soldered to it with silver solder) and galvanized with gold, was worn for many years, and although the gold was much worn off in places during the latter part of the time, no effect of this kind was produced; but the effect might have been different if tin solder had been used instead of silver.

Reasoning from analogy we should suppose that a gold plate loaded with tin, and put in the mouth, would produce as strong a galvanic effect as a silver one, but in several cases where we have seen plates constructed in this way, there has been no complaint of this kind made by those who wore them.

For a few months after we published Mr. Hawes' method of constructing lower sets in tin, it was all the fashion. Almost every dentist was making them in this way. Many soldered their blocks with tin for upper sets, and for a time were very sanguine that it was a great improvement over the old plan, as it avoided any accident which was liable to arise from springing of the plates, titling of the teeth or cracking the blocks. Of late, however, they seem to have discovered that there are some objections to this method of practice, and, judging from what we have heard, we should say that it was regarded with much less favor at the present time than formerly. There are some objections which if not valid, nevertheless go far towards making these sets unpopular. In the first place the charm connected with having a set of

teeth put upon *pure gold* is gone. There is an idea of perfect purity and cleanliness connected with gold which is not with any other substance. Many a patient, without stopping to consider the relative value of the materials would think five dollars for a gold filling quite as reasonable as two or three for a tin one, although the difference in the cost of the materials might not be one quarter the difference in the charges. The same is true with teeth mounted on gold or any other material.

The color of the tin soon becomes changed in the mouth, giving to it a dark unclean and unhealthy appearance. If it is coated with gold it removes this objection to be sure, but it frequently becomes necessary to alter the plates by cutting away their edges, as the gums and bones are gradually absorbed, and when this is done the gilding is removed and the tin exposed. The consequence is that the whole must be galvanized again. There is much time and trouble, and considerable expense connected with this process, and taking all these objections into consideration, we doubt whether any advantages which the tin bases have over the ordinary method of inserting on gold with gold solder, will sufficiently recompense for all these objections. For temporary sets, to be worn while the gums are receding, after removing the fangs, or, for duplicate sets to be resorted to only in case of accident, Mr. Hawes' or Mr. Royce's plan will answer very well; but for constant wear in the mouth we prefer the old fashioned way.

FORCEPS FOR HOLDING TEETH WHILE GRINDING.

Take a pair of common plyers with flat beaks; dip the ends of them separately in molten tin or soft solder, until a suitable amount of the metal becomes attached to them; then with a hammer flatten the metal somewhat; place the tooth between the beaks thus prepared, and hold it in the blaze of the lamp; press the handles slightly as the solder softens, until the tooth is sufficiently embeded to be firmly held. The position of the tooth may be changed as often as desired, by simply placing it as wished, and holding it in the blaze until the solder softens and accomodates itself to the form of the tooth.

Yours, respectfully,
JAMES B. FILLEBROWN.

Remarks upon the above.

We pity our correspondent if he is obliged to resort to instruments of this kind for holding teeth while grinding them, as it plainly shows that he is destitute of either a good assortment of teeth or proper emery wheels to grind with. This reminds us of the olden time, when Billar's

molar teeth were the only ones that could be procured in the city of New York. They varied in length from half an inch to an inch-and-a-half, and the consignments, to our old friend Abiel, were so small, that the dentist who was fortunate enough to come first, generally took all the shortest ones for his own use. This was before the present improved emery wheels were invented, and many a time have our fingers complained bitterly after laboring over the old fashioned grindstones, turning with one hand and holding the tooth in the other until its length had been reduced from a quarter to half an inch, and nails and flesh had suffered in proportion. At length we hit upon an expedient which greatly facilitated the process and saved the tips of the fingers from the gnawing of the remorseless stone. This was simply the resinous preparation which the lapidaries use while grinding and polishing their precious stones. By slightly warming the tooth in the flame of a spirit lamp it is made to adhere so firmly to this substance (which is first stuck to one end of a small handle) that the tooth can be ground to any desired extent. This plan we think is simple and quite as good as the one recommended by our correspondent.

Of late, however, the emery wheels are so excellent, and the variety of teeth so great, that with a suitable assortment to select from, a molar tooth may be fitted to the plate in less time than would be required to adjust it to the forceps described by our correspondent. So that, however simple and excellent they may be, we think their time has gone by, and that they will now be found of little use.

COMMUNICATION FROM DR. PARMLY.

To the Readers of the Dental Recorder ;

Dr. Allen permits me to reply to his remarks provided, I will do it "within two pages," (less than one half of the number occupied by himself against me) for which liberality I feel thankful, as it gives me an opportunity of correcting a misunderstanding of the language of J. R. Sawyer, printer, and in justice to him I beg leave, *first* to make the acknowledgement and say how the mistake originated. Mr. Sawyer, in his note appended to my article in the Recorder, says—that "In his (Parmly's) statement of my writing him that I was sorry that I signed my name to a falsehood I am misrepresented." I said in relation to the certificate, that when I found that Dr. Allen altered Dr. Burdell's manuscript, which the "*certificate*" says *Dr. Burdell altered*, I wrote to the printer that he had signed his name to a falsehood, and soon after I received a letter from the printer of regret for having done so, which

letter does credit to his head as well as to his heart. I must here make two extracts from our letters, in order to show how far I was mistaken in supposing from the language and tone of his letter that he regretted so signing his name, which under that belief I unintentionally "misrepresented" him. Seventeen days after Mr. Sawyer signed the certificate, charging Mr. Burdell with the alteration I complained of, he wrote to me, "that Dr. Allen made a *slight* alteration I am aware," &c., &c. To which I replied—Dr. Allen knew it was not true when he wrote the certificate. The use I shall make of the certificate will be to prove that Dr. Allen not only says what is not true himself but alters language and writes certificates to make others say so. If you reflect a moment you will perceive that an alteration is not "*slight*," when it misrepresents one person and makes another tell a falsehood. In answer to the above I received a letter from Mr. Sawyer, containing the following: "I am much pleased with the character of your last letter.—If I have erred in this matter or deviated in the least from honor it has been from misconception and not with any intention of wronging you. Trusting the above will be satisfactory to you as far as I am concerned, allow me to subscribe myself, Yours, respectfully, &c., J. R. Sawyer.

The above conveyed to my mind a feeling of regret for having signed such a certificate, which misapprehension I hope Mr. Sawyer will forgive, and at the same time he will please receive the expression of my regret for any injury or injustice done him by my dullness in apprehending his meaning, particularly when I assure him that I do not now believe from his statement that he did so understand Dr. Allen's certificate, although, in ascribing the alteration to Dr. Burdell, it is untrue, and it cannot be made otherwise. (A)

As I have not the faculty of answering the allegations contained in between four and five closely printed pages, "within" the narrow limits prescribed by Dr. Allen, I will reply to some two or three, and leave the others until he will give me more room. Dr. Allen says that I "cast the first stone." Dr. Allen does not mean that I cast it at himself surely; for my first "stone" has not yet been "cast," when it is "the mark will be hit." He also gives me the credit of having "sowed the whirlwind," and says that I "should not complain if it yields a plentiful harvest of storm." The first I admit, which I intended then, and intend now to make *broad-cast*,—as to the second, if Dr. Allen and amalgamists will only confine themselves to truth, I would say that I shall esteem it a high privilege for the sake of Dental science to meet

any "storm" their pens, tongues or breath can raise or blow against me. However "plentiful" the "storm" may be, I will risk the "harvest," Dr. Allen says in denying my charge of alluding to the subject which he promised not to allude to. "This was *not* the subject and the extract published by Dr. Parmly as *one* allusion is therefore no allusion, but was written in reference to a circular published by Dr. P., some months before the controversy commenced in the Recorder. Dr. Parmly must try again before he proves that I have ever alluded to the subject." I will "try again." The controversy was commenced in the 10th number of the Recorder, June 1st., 1847, and nearly five pages of that number are filled with it. The date of the circular which Dr. Allen says was "published *some months before the controversy was commenced in the Recorder,*" is June 22d. 1847, and is about the 19th or 20th *item* published in the controversy. Will Dr. Allen "try again," to clear himself from the alleged and confirmed imputation? The allusion which I quoted and which I again charge upon him as a violation of his promise, was printed in the August number of the Recorder of 1850, when he "cast" after his promise the "*first stone.*" (B)

In my last I said that Dr. Lovejoy was with others, without personal or unkind feeling from any one, expelled by a resolution of the society, previously made, and I believe universally adopted, in relation to the use of amalgam by its members. Dr. Allen says (and we shall see his fairness) "Dr. Lovejoy was expelled by the following resolution which never saw the light until the day it was passed." "Resolved, That Dr. John Lovejoy be and is hereby expelled from the American Society of Dental Surgeons for refusing to comply with their positive mandate in *using* and refusing to discontinue the use of amalgam for filling teeth." The resolution which was prepared by a committee of five to which I referred in my last and which *had seen "the light,"* was published in the 6th volume, page 80 of the Journal of Dental Science. I will copy the resolutions which expelled Dr. Lovejoy, and defy Dr. Allen with all his editorial ingenuity, and the one "which never saw the light" to prove to the contrary. Resolved, That the American Society of Dental Surgeons under the conviction that any amalgam whatever, whether used under the name of "Mineral paste," "Adamantine cement," "Succedaneum," "Diamond cement," "Lithodeon," "Alabaster cement," "Chinese cement," or in any other way designated, is not only unfit, but dangerous, when used for filling the teeth or their fangs, do hereby pronounce the use of all amalgams as malpractice. And it is furthermore Resolved, That any member of this society who shall here-

after refuse to sign a certificate pledging himself not to use any amalgam and moreover protesting against its use, under any circumstances in dental practice *shall be expelled from this society.*"

Dr. Allen charged me with voting to expel Dr. Lovejoy. I challenged him for proof and I will give him the credit of doing all he could, from the number of letters he has written, to obtain it. I can procure as large a number of names of those who were as "near" me as Dr. Allen, who did not hear me "audibly" say "yes," merely from the fact that my vote as chairman was not needed to make a "two-third vote." If it had been needed there was no one there that would have said "yes" more audibly than I should, and without any disrespect to Dr. Lovejoy for his private opinion and judgment, which he has a perfect right to, and with his expressed convictions, I should have done as he did. (C)

Dr. Allen says, in speaking of the alteration made in Dr. Burdell's letter. "If Dr. Burdell now says that I made more than one alteration, he tells that which is not true, if not, the falsehood rests upon Dr. Parmly." Dr. Burdell told me that Dr. Allen made *one* alteration *only* in the language attributed to me, but at least one more at the close of the letter. The *first* has been proved against Dr. Allen, (in despite of the certificate) and Dr. Allen can easily prove whether the other is so or not by producing the manuscript, which I understand was mostly found and is in his possession, Until he does prove it, I apprehend "*the falsehood*" will "*rest*" between him and the manuscript. Dr. Allen charges me with "misrepresentations and false reasoning." The first I will gladly correct if he will point them out, and of the second, I shall be thankful to be by him "more perfectly instructed." (D)

I feel greatly obliged to Dr. Allen for giving me the opportunity of performing an act of justice to Mr. Sawyer, and also for another opportunity of showing a want of truth and fairness in my opponents. I have before now proved them deficient in these two commendable qualities. I shall endeavor to perform the same unpleasant task whenever and wherever the same necessity exists, which I would most gladly avoid, but from which I shall not shrink when my own defence or the requirements of the profession make the task unpleasant as it is a duty.

I have filled to a line the number of pages of manuscript allowed me by Dr. Allen. I still would beg the indulgence of a few lines more in order to prove that there are some dentists in Europe at least who "sympathise" with us, and who place amalgamists in the scale of professional merit on as low a level as has ever been assigned to them in this country. In a letter addressed by Charles Smartt, of Bishopsgate, London,

to the editor of the London Lancet (January number) in speaking of American Dentists, he says, "I would offer a tribute of admiration to their exertions to raise the respectability of their dentists by colleges, publications, examinations, associations, and periodical literature" *

* "Dr. Gregory in his recent address to the pupils of St. Thomas, reminded them that when the Siamese connection between the barbers and surgeons was severed, surgery took a higher standing," and says, "how much higher would be the position of the dentist than it now is, if he could be severed from the penny barber and the village blacksmith." Let us ask, says Mr. Smartt, "your powerful aid in enlightening the medical profession and the *all* necessary public that all dentists are not blacksmiths, barbers, or amalgamists." I affirm there is as much need of severing "the Siamese connection" between dentists and amalgamists, as there ever was in severing it between surgeon and barber, for in their practice the former are as widely different as the latter. (E)

April 6th, 1851.

E. PARMLY.

Remarks upon the above.

BY THE EDITOR.

(A) I am sure that the readers of the Recorder will think with me that two pages (long ones, by-the-way,) of such quibbling is quite as much as should be inflicted upon their patient endurance. Knowing, however, that every word which I had written was true in spirit and letter, and having made an effort to be fair and just towards Dr. Parmly, I was the more anxious, nay even curious to see how he would evade the facts contained in the last two numbers of the Recorder. The result is before our readers, and as one of them remarked, "It is evident, from Dr. Parmly's writings, that he is contending for victory and not for truth." Before returning to the arena again he should have emblazoned on his controversial shield a motto something like the following—

"I never blot,
What once I've written, whether right or not."

Dr. Parmly says, "Mr. Sawyer signed the certificate charging Mr. Burdell with the alteration I complained of,"—and again he says, "The use I shall make of the certificate will be to prove that Dr. Allen not only says what is not true himself, but alters language and writes certificates to make others say so." The truth is that the certificate written by me and signed by Mr. Sawyer, did not state what alteration Dr. Burdell did make, nor do I at this time know what it was; but being

told that he had been to the printing office and made *an alteration* in the letter before it was all in type, and that he came again and read the proof—being told also by another person, that Burdell had informed Dr. Parmly that I had made great alterations in his letter, my object in sending the certificate to Dr. Parmly was, not to impute the alteration which I had made to Dr. Burdell, but to inform Dr. Parmly that Burdell had seen his letter twice *after I made that alteration*, and did not change it. These being the facts, I ask every honorable minded man if he was not responsible for the alteration, and if Dr. Parmly does not show great unfairness, and a desire to misrepresent, by trying to put the blame (if there is any) upon me, and now asserting in substance, that Mr. Sawyer signed his name to a certificate which “*is untrue and cannot be made otherwise.*”

(B) I did mean to say that Dr. Parmly cast the first stone in the “amalgam controversy,” and that it hit every one (myself included) who ever used amalgam in his practice. This was when he published in the newspapers the assertion that he had no confidence in the professional integrity of those who used quicksilver for filling teeth, and could not recommend them as safe persons to apply to as dentists. The storm of indignation which this brought down upon him he seems to bear with a very bad grace; but “Let the galled jade wince, our withers are unwrung.” Dr. Parmly says, “The controversy (evidently meaning the one which I promised not to allude to) was commenced in the 10th number of the Recorder, June 1, 1847. A fair statement of the facts is this, viz.—The “amalgam controversy,” (as it is generally called) was commenced in the Tribune by Dr. Parmly, May 26, 1847, and carried on between himself and several other gentlemen for months in that paper and the Express, but not in the Recorder. Dr. J. S. Ware, who was the editor of the Recorder, copied a part of the articles from these papers into its pages; but Dr. Parmly never wrote a line for the Recorder until it came into my hands. It would be just as fair to say that the famous “Church without a bishop” controversy was carried on in the Journal of Commerce because that paper copied the letters of Drs. Potts and Wainwright from the Commercial Advertiser, for which paper they were written, as to say that the “amalgam controversy” was begun or carried on in the Dental Recorder. Try again Dr. Parmly. My promise holds good yet.

(C) Dr. Parmly here quotes the resolution which I say expelled Dr. Lovejoy in 1847, and which is reported in Vol. 8, p. 100, American Journal, and speaks for itself. He also quotes a resolution passed

August 1845, against amalgam, and providing the punishment to be inflicted upon those members who use it, which is that they *shall be expelled*, and says that it expelled Dr. Lovejoy. By the same acute reasoning the statute against homicide, which provides that the murderer *shall be* hanged, is the one which hangs him, and there is no need of indictment, trial, and execution. How thankful would criminals be if judges and jurors would put Dr. Parmly's *wise* construction upon the law, and decide that they *are hung* already. It needs no "editorial ingenuity" "to prove to the contrary," as both resolutions speak for themselves, showing plainly that the one passed in 1845 made the use of amalgam by members of the society a crime or misdemeanor, while the other, passed in 1847, executed judgment upon Dr. Lovejoy for his transgression. When Dr. Parmly denies that he voted for the resolution which *I say* expelled Dr. Lovejoy in 1847, it will be time enough for me to procure certificates, which have been promised me from the persons whose names I have given, to prove the fact. If he was expelled in 1845, he was reinstated within three days, and continued to meet, and speak, and vote with the society, and pay his annual dues two years longer.

(D) The alteration which Dr. Parmly says has been proved upon me "in spite of the certificate," I have never denied, but was the first to make it known to Dr. Burdell, when he told me he had supposed it was a typographical error. I also told another gentleman the same, when I gave him Mr. Sawyer's certificate to hand to Dr. Parmly, and I also admitted it in the Feb. number of the Recorder. These facts show that the alteration which I made was not the one certified to by Mr. Sawyer. I regretted that the copy of Dr. Burdell's letter was so mutilated, when found in the printing office, as not to speak for itself. I only dwell upon this point to show how anxious Dr. Parmly is to convict me of some trick or falsehood, and how unwilling he is to blot what once he's written, whether right or not. The following note will show what Dr. Burdell has stated about the "*alterations*."

New York, April 9th, 1851.

DEAR SIR:—In reply to your note of this date, I will state that soon after the February number of the Dental Recorder was published, in which the editor states that he made but one alteration in Dr. Burdell's letter addressed to Dr. E. Parmly, I asked Dr. Burdell if I understood *him* to say that Dr. Allen made but one alteration, to which Dr. Burdell replied that Dr. A. had made but one alteration,

by adding the word for, and that he told Dr. Parmly so before he published his article in the Tribune. Yours, &c.,

C. C. ALLEN.

J. M. LAIRD.

(E) Dr. Parmly has had much to say about the want of truth and fairness in his opponents; has he proved either against me, or has he set his quibbling and special pleading against my frank and full explanations, backed by names, dates, quotations, letters, and certificates? I leave the whole subject with our readers, and can honestly say that since I have had charge of the Dental Recorder in all I have written about the professional opinions of Dr. Parmly, or any other dentists, I have never had any personal or unkind feeling towards any one, nor any intention to misrepresent their motives or principles. I do not approve of humbug or quackery in any form, whether it be by the abuse of amalgam or those who use it, and I cannot see either the justice or the wisdom of classing all together who use amalgam, as Dr. Parmly has done, without making any distinction between the honest and the dishonest, the skillful and the unskillful, the scientific and the unscientific, and although he quotes Mr. Smartt as placing amalgamists on a "low level," I do not believe that that writer ever intended to depreciate the merits of either Cartwright, Narsmyth, Tomes or Brewster, who are all, in the Parmlyan sense, "AMALGAMISTS."

OHIO COLLEGE OF DENTAL SURGERY.

The establishment of colleges to educate young men for the practice of any one specialty of medicine or surgery, is an experiment which if it were to be now started for the first time we certainly should oppose, preferring rather that our medical schools should appoint professors to teach every department of the healing art: but these schools have now been some time in operation, and have given a good account of themselves, at least such has been the case with the Baltimore College, those of its graduates whom we have known being admirably qualified for the practice of their profession, and we doubt not such has been the case with the graduates of the Ohio College. This institution is much younger than the one in Baltimore, and has always been embarrassed for the want of funds to place it in an independent and prosperous condition.

We see by a circular which has been put in our hands, that a plan has been devised, which, if carried out, will entirely remove the embarrassments under which this school has heretofore labored. Thirty-eight shares of stock have been created, which are to be subscribed for by

friends of the institution, at one hundred dollars each, making the sum of three thousand eight hundred dollars, for the purchase of the building and lot now occupied by the College, including the permanent fixtures and furniture, and the anatomical preparations belonging to the institution.

The stock is to be paid in instalments as follows: Forty dollars on the first of August, 1851. Thirty dollars on the first of August, 1852, and thirty dollars on the first of August, 1853. Interest on this stock, when all paid in, is to be paid yearly. The stock is made transferable by consent of a majority of the stockholders.

“The stockholders shall be bone-fide owners of said house and lot, with all the appurtenances thereunto belonging; shall have the nomination of all the professors in said school to the Board of Trustees; shall have the fixing and prescribing terms of tuition and requisition for graduation; also have the appointment of a committee for the examination of graduates.”

Here now is an excellent opportunity for the friends of Dental science to step forward and lend a helping hand to an institution established for the express object of elevating and improving the condition of our profession, and we trust they will not be backward in the good work. We should like to know that the Ohio College of Dental Surgery was owned and protected wholly by the dentists of our country. To the Dentists of the West this plan especially commends itself, as that section of our country is sadly in want of intelligent and faithful operators.

A NEW KIND OF DENTAL DRILL.

A short time since, Mr. B. B. Alfred, of Greensborough, Geo., showed us a dental drill, in which a new application was brought into use to give motion to the drill. The instrument consisted of a hollow tube with an ivory handle attached to one end of it, through which passed the shaft. On one end of this shaft was the crank, and on the other a small cog wheel containing some twelve or fourteen teeth. This cog wheel played into a four threaded worm wheel, standing at right angles with the main shaft of the instrument and the drills or burrs, were put into the shaft of this worm wheel. The motion was imparted to the drill in the same manner that the fly wheel of a common music box is propelled. The drill is made to revolve about four times to one revolution of the crank. With this instrument the dentist is enabled to drill into almost any part of a tooth.

Several different kinds of these drills have been invented, some of which show great ingenuity and mechanical skill. Mr. J. D. Chevalier

has recently invented one, which has been noticed in the Recorder, and which works remarkably well. So of Mr. K. Spencer's. We have recently been using one of Mr. Spencer's drills and find it very convenient oftentimes in preparing difficult and broken cavities in the back part of the mouth, for securing the fillings.

N. B. The manufacturers, Messrs. Dietz Brothers, No. 139 William street, have recently reduced the price of these drills to fifteen dollars, and to the dentist whose time is of any value they are worth double the money.

COMMENCEMENT OF THE BALTIMORE COLLEGE.

The annual commencement of this institution took place March 27. It was held at the new assembly rooms, corner of Hanover and Lombard streets, where a large audience of ladies and gentlemen had collected to witness the interesting and somewhat novel ceremony of conferring the degree of *Doctor of Dental Surgery* upon the graduates. The exercises were commenced at 11 o'clock, with prayer by the Rev. Dr. Piggott. Professor Thos. E. Bond then gave a history of the origin rise and progress of the institution, after which Professor C. O. Cone read the report of the Infirmary connected with the College. From this report it appears that 1700 cases have been treated during the past year. (Think of this gentlemen of the Clinical Committee of the Society of the State of New York.) Professor W. R. Handy then stated by what authority the College conferred the degree of Doctor of Dental Surgery, which he said was no less than a charter from the Legislature of the state of Maryland.

The following graduates were then called up and received their diplomas from Prof. Chapin A. Harris. *1st. Class.* Rufus K. Chandler, of Va.; R. P. Bessant, N. C.; Wm. J. Reece, Ala.; J. Randolph Walton, M'd. *2d. Class.* Geo. S. Jones, of Ky.; Edward H. Howston, Va.; John A. Johns, M. D., Va.; Edward S. Billups, Geo. *3d. Class.* Loyd T. M'Gill, M. D., M'd.; Wm. S. Brown, S. C.; Thos. W. Bacot, S. C.; Richard M. Adair, Ken. *4th Class.* Ehrich Parmly, N. Y.; Geo. S. Bretz, Pa.; Thos. D. Miller, England; James North, M. D. Maine; Francis P. Abbot, do.—Total 17.

Dr. E. Parmly was then introduced to the audience and read the valedictory address, in which he spoke particularly of two distinguished dentists recently deceased. The exercises were concluded by a benediction pronounced by the Rev. Dr. Piggott. During the exercises the audience were enlivened by a number of beautiful airs, performed by the Blues Band in admirable style.

The Baltimore College of Dental Surgery is now apparently in a prosperous condition, and we trust is doing much to improve the practice of dentistry throughout the southern states, whence most of its members come. It is high time for a dental College to be in operation in the North, if dentists are to be educated in the science as well as the art connected with its successful practice. We learned, a short time since, that a bill was before the Legislature of Pennsylvania for chartering an institution of this kind, to be located in Philadelphia. Where are the friends of dental science in New York? Must they continue to quarrel about amalgam, and the question of the honesty of those who use it, while the neighboring states are outstripping them in the advancement of all that is honorable and useful in our profession? We hope and trust that the time may soon come when these fruitless controversies will have an end, and when the honest friends of dental science, whether users or abusers of gold, tin, or amalgam, may meet in one friendly circle, actuated by no strife except the laudable one of elevating the condition and increasing the usefulness of Dental Surgery. But if this cannot be with the present generation, if the father's have eaten sour grapes, we still hope that the children's teeth may not be set on edge.

BLOCK TEETH.

We have always been of the opinion that every dentist engaged in the mechanical department of inserting artificial teeth, should be able to manufacture his own blocks. If he has not a business which keeps him constantly engaged in operating,—and there are but few who have—how can he better employ his leisure time than by making teeth. There are [often difficulties to overcome, and peculiarities required in teeth, which are impossible to describe to one who only knows how to make teeth. Hence we find that the best mechanical workmen who have been manufacturers of teeth have made the handsomest and the best, and been the most successful in adapting them to the mouths of their patients.

We have been seeking for some time to find a dentist who has knowledge and skill sufficient to make good teeth, single and in blocks, and liberality enough to impart his knowledge to the profession in a series of articles for the Dental Recorder. Any one who would volunteer to do this, if qualified for the task, would gain to himself at this time quite as much credit for professional liberality, as Dr. S. Brown did, when he published his treatise on Mechanical Dentistry, and we cannot see how it would injure him. Those who wish to purchase receipts, in-

structions, or materials, are referred to the advertisement of Mr. J. A. Maine, on our outer sheets, who has shown us some very pretty specimens.

MEDICAL PERIODICALS.

The North American Homoeopathic Journal, a quarterly Magazine of Medicine and the auxiliary Sciences. Conducted by C. HERRING, M. D., Philadelphia, E. C. MARCY, M. D., and J. W. METCALF, M. D., New York.

Since the science of Infinitesimals was first promulgated to the world by the illustrious Hahnemann, it has withstood the combined assaults of reason and ridicule; critics and croakers, truth and falsehood, and been constantly gaining new accessions to its ranks. In our city alone there are now about *fifty* practitioners of this school, and two periodicals devoted to the science. The present number of the Journal contains a paper by Dr. Metcalf, giving a bibliographical history of *one hundred and nine* works which have already been published in this country, from pamphlets and addresses to given tomes of five hundred pages and upwards. In view of these facts we may safely say that so far as homoeopathy is concerned, it is not to be put down by ridicule or reason, until the experience of mankind has demonstrated its futility, for both have been tried upon it, and with the fairest prospect of an easy victory, as the science is, *primar facie*, most unreasonable and supremely ridiculous to those who have been taught the old system. We presume not to give our opinion of the merits of this new system as we have been educated in the old school, and have never been sick enough to test the power of "high potencies;" but we have promised some of our friends that when we have the good luck to be *comfortably sick* we will try the potency of high dilutions. Those who wish to become familiar with the principles of Homoeopathy would do well to subscribe to this Journal. Wm. Radde, agent and publisher, 322 Broadway.

FIRE.—On Friday morning, April 11, the large store adjoining that of Mr. J. D. Chevalier, was discovered to be on fire, and before Mr. C. was apprised of his danger, the wall fell upon the roof of his store, crushing it in, and burying his whole stock amid the ruins. The stock of Mr. Chevalier was to have been moved to his new store opposite, the next day. Insurance \$5,000, which will about cover the loss. We are requested to announce that in about one week Mr. Chevalier will be ready to commence business with a general assortment, although for some time a much smaller stock than he has recently had on hand.

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No. VIII.

FILLING TEETH.

BY JAMES TAYLOR, M. D., D. D. S.

The class of cavities treated of in the present number, those which occur on the approximal surfaces of the teeth, is the one which gives young practitioners more trouble than any other, on account of the difficulty which is often experienced in introducing and consolidating the gold. Dr. Taylor has taken great pains in describing minutely every step in the operation, and many of the peculiarities which occur, and which are exceptions to the general run of these cases. The young dentist frequently encounters more difficulty in filling the smallest cavities on the approximal surfaces of teeth than he does when of a medium, or of a large size. The reason is that he does not separate the teeth, particularly if the file is used, enough to obtain sufficient room to work in, without which it is useless to attempt to insert a well packed solid filling. Dr. Taylor's remarks upon the choice of the file or the wedge, are, in our opinion, very judicious, and accord with our experience for many years; but whichever is used the packing of the gold should not be attempted until the teeth are far enough apart to give the operator command of every part of the cavity. Those who have attempted to give a minute description of the operation of filling teeth, or any other in the mouth, will understand the difficulty which all writers experience in giving clear and lucid descriptions of the various steps to be taken. Dr. Taylor's directions, though sometimes foggy, are in the main easily comprehended by the attentive reader, especially if he has begun to practice. In the description of his instruments, especially the excavators, he has been less fortunate, and it is to be regretted that he did not resort to a few wood cuts for the purpose of illustrating them. To the *young dentist* this address of Dr. Taylor is invaluable, especially if he has not had the best of advantages while studying the elements of his profession. We can remember the time when we would have given our whole dental library, embracing all the books which could then be procured in the English language, for this address, and the short treatise on Mechanical Dentistry, written by Dr. S. Brown some years since, and published in the American Journal. Some may suppose that with

these general rules and minute descriptions they can master the difficulties without the usual pupilage and course of instruction. To such we would say that the slowest and dearest way to learn dentistry is to attempt it without being taught ; many have tried it in former times, when the advantages of learning from the experience and teachings of accomplished operators could not be had, and the few who have succeeded, among the hundreds that have failed, can bear testimony to the great difficulty of the task. By seeing the operations demonstrated by the operating dentist, the student will learn more and better appreciate and understand the theory, as described in the books, in a few months than he would by years of study without a teacher. *Theory and Practice* in dentistry as well as in medicine should go hand in hand together, the former may be learned by study, but the latter must be acquired by observation and experience.—*Editor Recorder*.

“ The next cavities in regular order, according to classification, are the approximal, yet in their importance and frequency they might well be placed first on the list. I presume that they embrace far more in number than all the rest, and that no location of cavity so much baffles a majority of operators. How frequently do we meet with young operators who succeed tolerably well in the central and some of the labial fillings, and yet scarce ever succeed in those now under consideration, and if so at all, only in those most favorably situated for filling.

“ There are quite a number of circumstances and physical peculiarities of the teeth to be taken into consideration, before we can treat of this operation as we ought. These cavities are located on the approximal surfaces of the teeth. The age of the patient, the nature of the decay, the extent of disease, the tooth or teeth to be filled, and the means to be used so that the cavity can be made accessible and the teeth filled. Shall they be separated by wedging or by filling ? I think we shall find that these several circumstances will and should exert a due influence on the mode of operating. In our description, we take the teeth as we find them decayed on their approximal surface, and we are to determine whether they can be saved by filling and how this is to be best done. We find all the teeth subject to decay in this location, true, some but seldom, others very often ; the superior incisors and bicuspid more frequently ; the incisors and canine inferior less frequently ; yet all are subject to this location of disease.

“ The age of the patient must have an influence in directing us in the first steps necessary to perform this operation aright.

“ The question might be asked, at what period of life are we most frequently called upon to fill the superior incisors ? The answer to this question would depend very much on the oversight of the parent, and whether children are brought in to have these teeth plugged when they should be. I am satisfied that in a majority of cases when these teeth decay on their approximal surface, that the disease commences before

the twelfth year, or by that period of life we may expect the second molars to make their appearance. These remarks are made because it is thought that in early life they should be separated by wedging, and at this time they can be thus separated with less injury than in after life. What are the conditions which would demand the use of wedges instead of the file? If the decay has progressed so that the edges of the enamel have become brittle, the file is certainly indicated, and if, when this has been used, the space obtained is sufficient for the proper introduction of the gold, wedging is not necessary. If the teeth are much decayed and overlapping each other, and the use of the file would relieve the deformity, it is certainly indicated, but if, when this has been used so that the object is accomplished, and the enamel around the border of the decay is firm and solid, and the space is not sufficient, the use of the wedge is indicated.

"If the decay is small, not deep seated, and has not injured the appearance of the teeth, wedging is certainly admissible, and most particularly so if the use of the file would cut away a portion of the border of the cavity necessary for the retention of the plug.

"If the teeth are small at their necks and only pressing against each other at their points, and these sound, with small decay, the wedge is indicated. I have thought that this particular condition of things was more favorable for the use of the wedge than any other. Such teeth when filed generally approximate and bring their filed surfaces together, because a shoulder is not admissible at their necks, so that they can be kept apart. Such teeth when much filed are often much disfigured from the fact that two approximating, some of the spaces are much widened. Take for illustration the central incisors pressing together at their points, the lateral incisors more disposed to rest against the canine teeth. The approximal surfaces are all decayed and spaces are made with the file for filling. We will find the central incisors soon again pressing at their points; increasing the space between these and the lateral, about equal to the space made between the central, and if the lateral should still tend toward the canine, a still greater deformity will be created, the extent depending upon the space made between these and the canine. This condition of things then, indicate very strongly the propriety of wedges, and I should not stop to know if my patient was fourteen or forty.

"We will find such teeth very easily pressed apart—the alveolus not embracing so much of the root of these teeth as is the case in teeth of short crown and thick necks.

"What kind of wedges shall we use? This I think not really essential. The object is the separation of the teeth, and the requisite force can be applied by any of the three usual methods, and with care can be effected with safety by either. The gum elastic, it is true, unless judiciously applied, may exert the force too rapidly. The same thing, however, may be effected by the use of wood or cotton. The latter articles, however, I usually employ, because less unseemly between the teeth. If the carious portion is very sensitive, and I wish to destroy this sensibility, I use cotton, having upon it tannin and collodion or creosote and

extract of galls. The former I have of late found the most to be depended on. The collodion being soon evaporated, the cotton is left in a somewhat hardened ball and not easily displaced.

"My attention was first drawn to the use of the cotton for wedging the teeth apart, by a case I had in Port Gibson, Miss., some ten years since. Mrs. T., aged about thirty-five, had extensive decay on the posterior approximal surface of the second bicuspid, left side superior. The tooth had been filled and the plug recently picked out. The tooth bone was exceedingly sensitive, and to allay this I applied daily, for a few days, a preparation of nut-galls with creosote on cotton. The space between the teeth was so small that I had to force the teeth slightly apart to get in my cotton with the preparation named. I found the space widening daily, and by the time the tooth was ready to fill, the space was abundant to enable me to fill without the use of the file. When the object is a separation of the teeth, and no application to the decay is desired, I generally take soft wood, (pine) and after introducing the first wedge, leave the balance to my patient, directing a renewal every morning and evening until the requisite space is obtained; not letting the pressure be enough at any time to produce much soreness in the teeth. This will accomplish the object in from two to four or six days.

"I avoid the use of arsenic in acute sensibility of tooth bone, unless I am absolutely driven to it, and this is very seldom; but above all other means I far prefer the rapid use of a very sharp excavator. This is at once forced through the decay, when with two or three sudden revolutions around the cavity the decay is mostly cut loose from the bone, and its sensibility in a great measure paralyzed. After this, time can be taken to complete the cavity as desired. There are but very few patients of even twelve years of age but what I ultimately get to submit to this operation. When such will not submit, and the other remedies fail, I would then apply the arsenic as directed by Dr. Harris, but not leave it in over two hours; the decayed portion should then be removed and the cavity washed out with the hydrated per oxide of iron. This being an antidote to the arsenic, will arrest its further action.

"It unfortunately so happens that the very class of teeth in which this article might be supposed to exert the most pernicious influence, are those in which it appears to be most demanded. And these are those teeth, apparently possessing a greater degree of vascularity than is usual, so that the sensibility of the tooth bone is greater than is ordinarily met with. And I suppose that as is the vascularity of the dentine, so is the danger of reaching the pulp by the action of this remedy. The question, then, as I take it, assumes this character:—Shall we let the tooth alone to be lost by the disease with which it is affected, or shall we attempt its preservation by the use of this remedy, and if the nerve should be destroyed, fill, as if this had been done intentionally?

"Although generally succeeding in the allaying of the extreme sensibility of these teeth which are most frequently met with in youth, by those remedies first suggested, yet I must confess that they are not as prompt and certain in their action as is desirable, and the arsenic is too

much so ; taking the other extreme, various preparations I know have been recommended, such as Sulph Ether, and Chloroform ; the latter with Benzoin, and various other remedies of the like nature. Yet to avoid pain in the removal of caries in the teeth of our young patients, is of doubtful practicability. But I have digressed here farther than I intended, having reserved this subject for after consideration.

“ In the further consideration of this subject, we shall first take up the preparation of the cavities under consideration in the superior incisors and canine. And first, let us take a view as it were of the approximal surface of these teeth, so that we may have a proper idea of the form which the cavity will necessarily assume, particularly if the decay is at all extensive, and the separation of the teeth will demand the use of a file. In a majority of cases where the separation is effected by wedging, the cavities can be made round or nearly so. But when the decay is extensive, commencing near the gum and extending to near the point of the tooth, we shall have a shape of cavity somewhat resembling the side view of the tooth itself. We have here wedged shape teeth, the palatal plane however, far more bevelling than the labial. The cavity then must often assume this shape ; having its base next the gum, and the cone corresponding to the point of the tooth. The manner of separation will affect also the interior arrangement of the cavity. If, for instance, the teeth have been separated with the file, and the palatal portion most cut away to preserve the labial appearance of the teeth, we shall have a depth of cavity on the palatal, not at all equal to that on the labial line of the tooth.

“ This condition of things is generally that which is most desirable, so as to most effectually preserve the appearance of the tooth, and hide from view the filling.

“ The decay sometimes, however, approaches more the labial portion of the tooth. Then this condition of cavity may be somewhat reversed ; and although the tooth may be well filled, yet the plug will be more exposed to view. The palatal border of these cavities do not always present a straight line, but generally the reverse, curving inward somewhat to the centre of the decay.

“ The internal arrangement of these cavities I aim to get of the following order : The labial and palatal wall straight, merely carrying in as it were the breadth of the cavity at the orifice, but the base of the cavity next the gum, slightly enlarging as it extends in toward the centre of the tooth. The point under the cutting edge of the tooth should also take somewhat this shape. In this way all the healthy bone which can be, should be left to give strength to the labial and palatal border or wall of the cavity, and this is especially necessary as the palatal wall if left thin is apt to crumble away, and the labial may do the same or reflect too much the gold filling

“ It sometimes is necessary, however, to cut away from these points all the dentine, as this may have become discolored from disease. This enlargement of the cavity at the cutting edge and neck of the tooth should not be of the character of a distinct neck, but merely such as to

make a gradual widening of the cavity from these two points ; so that the filling shall be held additionally secure. Scarce a tooth do we meet with which can be filled at all, but will bear this form of cavity ; and in superficial or shallow cavities it is that form most easily and securely filled. The remarks already made in relation to approximal cavities are alike applicable to the incisors and canine superior and inferior. We come now to speak of those in the superior bicuspid. Here we have a different shape of tooth, and yet, as in almost all cases when the decay is small, the cavity is, or may be easily made round. Here, however, wedges are not so much resorted to, and yet their use is often advantageous. I have of late years used them in all such cases as when the file would destroy the cavity. When these teeth have been filed and filled, the fillings are not doing well, or have dropped out and the teeth are again pressing on each other. Such teeth I generally wedge apart—then shape my cavity and trim the border with a file to suit the condition of the teeth. So that two plugs may not press together, but allow the enamel portion on the labial face of the teeth to come in contact. Floss silk or some such substance should be daily forced between such teeth.

“In separating these teeth where these conditions do not exist, I generally use the cutting instrument and the file. But let me here state one condition of things which we very often meet with in these teeth. We first have a crowded condition, then we have both bicuspid decayed on both approximal surfaces, and also decay on the anterior approximal surface of the first molar—the posterior bicuspid much decayed, and our patient sixteen. In my opinion the best instrument to make space here is the forcep. One good space here is better than two, for this will be in a short time much diminished, and the annoyance to the patient in mastication, is far less than two filed spaces. This advice is made of course, taking it for granted, that the molar and first bicuspid can be preserved.

“Let us however prepare these teeth for filling without this operation. If the decay is advanced so far that the enamel has commenced to crumble in, I first take my cutting instrument, cut away that portion which is frail, and hides from view the cavity. This is done generally, cutting most toward the palatal portion of the tooth, preserving as much as possible the labial face of the tooth—the cavity is thus exposed—the depth of decay ascertained, and then with a knife-edged file the space is finished. This space when completed resembles somewhat the letter V, with its base toward the cutting point of the teeth ; when admissible, a shoulder is left at the neck of the tooth. The space on the palatal line of these teeth is much wider than on the labial, when the decay is extensive and the enamel frail, bevelling from near the palatal prominence. This gives fine access to the cavity, and enables me to overcome a difficulty occasioned by an anatomical construction of the tooth, which is this : The fissure or suture running from approximal surface to approximal, as it approaches either surface dips deep into the tooth ; the centre of this suture being elevated by the labial and palatal

prominences uniting. This form of tooth when the decay penetrates from the approximal surface of the tooth beneath this depression and decomposes the bone to the enamel; weakens so much this exposed wall of the cavity, that it is constantly liable to be broken. The decay following here the line of enamel, forms a shape of cavity any other than desirable for the retention of a plug. I prefer therefore at once, to cut away the enamel to this depression, bevelling in toward the palatal prominence, and up to the shoulder at the neck of the tooth. It also bevels toward the labial corner of the tooth, leaving the face of the tooth as perfect as the solidity of the enamel will allow. We have here a space giving us the most easy access to the cavity, and more easily kept clean with the tongue than any other.

"The decay following the line marked out by the bone of the tooth, forms a circular cavity extending from under the labial to the palatal prominence, and the continuation of this circle interrupted by the depression on the cutting surface of the tooth. The depth of the cavity under the cutting surface of the tooth will necessarily be shallow, yet we will be enabled to cut under the enamel so as to get a good hold for the plug. The circle of the cavity first named can be so formed as to maintain the size of the cavity at its orifice, or, if desired, slightly enlarged as described in my description of those in the central incisors. This shape of cavity at the neck of the tooth I consider desirable in all approximal cavities; it holds in place the first blocks or fold of foil far better than any other, because the pressure made in compacting the gold is more on a direct line with the wall of cavity thus formed.

"The space between the molars will, to a great extent, be the same as that already described, only the same care is not necessary to preserve the labial face of the tooth. If this decay is correspondingly large with that in the bicuspsids, the space may also be wider, and as we advance back in the mouth, this will be needed, so that the cavity may be perfectly accessible. Unless the decay dips beneath the margin of the gum at the neck of the tooth, the shoulder will be more distinct, and even when this is the case, the filling may be filed and trimmed to give the shoulder almost as if the cavity did not pass under the gum. Without a good space and thorough work in the filling of these cavities, a difficulty so often complained of will be the almost certain result, and this is pain in picking the teeth. What occasions this pain? Is it, as is often said, an irritable periosteum which has become exposed by the recession of the gum? I think this would not often give such acute pain as is complained of by the touch of the pick. Is it an exposure of the bone at the neck of the teeth, and which is firm and solid and yet so sensitive? I think that this is not often the case.

"This sensitive condition often comes on weeks or months after the tooth has been filled, and I think, that it will more often be found to be the result of an imperfect removal of the diseased bone at the neck of the tooth, or the foil has not here been well compacted, so that moisture and air gets in and the bone beneath the filling becomes tender from disease. This I have frequently observed, and the refilling of the tooth

relieved the difficulty. Very often have I found the space so small when this difficulty existed, that it was utterly impossible for any man to do justice to the operation. A narrow space between the molars will always be annoying and troublesome to the patient, while a very free opening is of but little if any inconvenience."

To be continued.

FILLING TEETH AFTER THE PULP-CAVITY HAS BECOME EXPOSED.

The propriety of removing the dental pulp from any of the teeth farther back in the mouth than the cuspidati, has long been a mooted point with many of the most skillful in the profession of dental surgery. Some have asserted, that wherever the cavity was sufficiently large to expose the vessels, it was best at once to remove the tooth, as it never could be effectually saved and rendered serviceable. Others have contended that the tooth might be made as good as ever, by capping or otherwise protecting the uncovered nerve from pressure and the action of external agents. Others, again, have attempted the extirpation of the nerve and blood-vessels, and filling the entire length of the fang with gold.

If we accept the first as the true mode of procedure, we shall probably sacrifice a great many valuable teeth, and teeth that might with skill have been saved and made useful for many years. It is possible that most practicing dentists of *this* day make *some* attempt to save bicuspid and molars, particularly where, from the loss of many other teeth, they are much needed for mastication. The question then becomes one of vital importance, which is the best method? which is the truth?

Perhaps one of the best ways of arriving at the truth, would be for each one to "give in his experience," for, after all our theorising, experience is the great teacher. I will endeavor, in as brief and concise a manner as possible, to give the results, as far as known, of my own operations on teeth thus situated, in the past sixteen years. In 1831 I had the pleasure of witnessing the extirpation of the pulp, and the filling of the fang to the apex of a central incisor, in the mouth of a lady, by that accomplished dentist, Dr. Edward Hudson, of Philadelphia, and have had the opportunity of seeing this tooth frequently since; it became somewhat discolored, but not sufficiently to render its presence offensive, and still remains a serviceable tooth—the filling being as sound as when first put in. The success attending this operation induced me to

attempt, in 1833, the filling of four incisors for a gentleman, all of which I filled in the fangs as far up as I could succeed in passing a small probe. These teeth I saw in 1846—thirteen years after—and they looked well, had never had any abscess, or any irritation in their sockets. The first attempt I ever made to save a tooth by capping a nerve, was in 1836: a large superior molar in the approximal surface, the bicuspid having been removed, and thereby affording an excellent opportunity for a perfect operation. Upon removing the caries, the nerve became apparent, and a slight redness was seen, though there was no bleeding of the vessels. I made a concave cap of gold, sufficiently strong to resist any pressure I could exert with my instrument in filling, and placed it very carefully over the part, taking great care that the edges should have a firm bearing on the sound surrounding bone, and then filled the cavity all around and over it; and after polishing the filling, and finding that cold water thrown on the tooth and filling from a syringe produced no sensation, concluded the operation was perfectly satisfactory, and the tooth effectually preserved. At the end of one year, the patient called on me to have other teeth examined, and said this tooth had done very well; that though occasionally it gave him a thrill, it never amounted to pain. In six months more I again saw him, and then found that an abscess was forming, and upon removing the filling and cap, the pus gushed from the opening. This relieved it for the time, but in a few days, the tooth becoming more painful, he begged to have it removed, which was accordingly done.

In 1837, a lady called on me, complaining of a roughness between her central incisors, though she had no idea there was any amount of decay—supposed a slight filing would remove it. Upon making a separation with a file, considerable caries was found in one of the teeth, upon removing which, the pulp was almost reached, but not wounded, so as to produce pain. Being very unwilling, as the teeth were very beautiful both in shape and color, to destroy the nerve, and thereby involve the probability of changing the hue of the tooth, I concluded to fill over it, and watch it carefully from time to time, so that the first approach of danger might be noted, and the nerve extirpated and fang filled if it should prove necessary. One year after, I received a note, requesting me to advise what should be done with this tooth, as the lady had been suffering some days. Upon calling to see her, I found that she had felt pain in it for several months, and it had become almost black.

I immediately removed the filling, which gave relief from the pain, and after some treatment, filled the fang and crown, but the color of the tooth I never could restore. The whole bony structure had become so much discolored that it was impossible to restore it. This, with some variations of condition and appearance, modified by the character of the teeth and temperament of the patient, has been the result sooner or later, in nearly all of my attempts at filling teeth over exposed nerves. There remains for consideration now, only the last mentioned method of treatment, to wit : the operation of extirpating the diseased or exposed tissue and filling the cavity. My experience convinces me that wherever the vascular and nervous branches distributed in the bone are ruptured and their connexion with the bone severed, that the pulp, if left remaining as in the operation of capping, dies sooner or later, and when it dies in this way, it involves the early death and loss of the tooth. The pulp becomes a centre of irritation, inflammation extends to the external membrane, and the tooth perishes by the loss of its only remaining supply of vitality. This is not so likely to happen when the nerve and vessels are skilfully taken out and the fangs are filled with gold. When this operation is successful, the circulation in the periosteal membrane remains as perfect as ever, and the body of the tooth naturally supplied by this route, is still healthfully supported ; and it is moreover clear by all the analogies of the circulation, that even the most interior parts of the structure must derive an adequate supply of blood through the anastomosing radicals of excised branches left by the operation of extirpation ; and so the prolonged *life* of the tooth, which experience proves, is maintained and accounted for. Of course the utility of this operation will depend upon the perfectness with which it is performed.

It is often very difficult to reach all the fangs of a molar tooth in the upper jaw, and great expertness is necessary to fill them so as to leave no room above the filling for the accumulation of pus. Since the year 1840, I have filled a great many teeth in the fangs, and as far as my note book furnishes evidence of the results, eighty out of one hundred cases have been successful, and I am inclined to the belief, that most of the failures have been owing to my imperfect performance of the operation, rather than a mistake in the propriety of the operation itself, for in those which I have extracted some months afterwards I have found almost in every case, either, that the vessels were not entirely extirpated, or that my filling had not reached quite so far as it should.

From the result of my own operations, therefore, I have arrived at

this conclusion, which I must hold until further experience proves its fallacy. That a tooth, the nerve of which is exposed, and the circulation of the blood-vessels cut off, must and will, sooner or later, become an ulcerated and diseased tooth, demanding removal, and perhaps involving the alveolus in its disease; and, that by thoroughly extirpating the pulp and filling the cavity, eighty per cent may be saved effectually.—E. T.—*American Journal*.

ADJUSTMENT OF CLASPS.

It has been justly remarked, in a late number of the "Journal," that clasps cannot be entirely dispensed with, in the insertion of partial sets of artificial teeth. Properly constructed atmospheric plates, have, to some extent, superseded the necessity of using them; but still, in a great many cases, they are undoubtedly quite indispensable. The objections to their use are very much lessened by their perfect adjustment to the teeth to which they are applied. To effect this object, it is, of course, necessary that we should have something more to depend upon than the ordinary plaster model from which the plate is made. A number of plans, more or less useful, have been suggested for this purpose. That which I have found most satisfactory is, Fogle's strip, for confining temporarily the clasp to the plate; but I have lately fallen upon an exceedingly simple method, which, so far as I have tried it, has most perfectly answered the desired purpose. I do not know whether it is new, (it is certainly so to myself and to those to whom I have mentioned it,) or whether its success in the few cases in which it has been tried, has led me to over-estimate its advantages.

In taking the impression, I am only careful to secure a perfect impression of that part of the mouth to which the plate is to be fitted. After the plate is made and found to fit, it is fixed in its proper place in the mouth, with a little Venice turpentine, placed on the upper surface, the mouth being previously wiped dry. An impression is now taken and the plate withdrawn from the mouth with the wax. The Venice turpentine, as will be seen, serves to keep the plate in place during the process of taking the impression, but does not prevent it from leaving the mouth when the wax is withdrawn. From this impression a plaster model is made, which will show the exact relation of the teeth to which the clasps are to be fitted and the plate. With a model made in this way, I do not hesitate at once to solder on the clasps permanently. I am always in the habit of forming the clasps upon castings made

from impressions carefully taken of the teeth to which they are to be attached.

It may be asked: What advantage do you gain by taking a second impression with the plate in the mouth? Why will not the first impression, if correctly taken, answer quite as well? For the same reason, that the teeth of that impression cannot be depended upon for the perfect formation of the clasps. It is so important that the portion of the mouth, which is to receive the plate should be accurately taken, that it is very difficult, if not quite impossible, to get at the same time a perfectly correct impression of the adjacent teeth. But after the plate is made, the attention and efforts can be exclusively directed toward obtaining a correct impression of the teeth to which the clasps are to be attached, which must be comparatively easy. It is, however, quite unnecessary to discuss this question; for the method suggested is so easily tested, that the matter may be at once settled, as such thing only can be, by active experiment, if the advantage to be gained is thought worthy of the trial. A.—*American Journal*.

REASONS FOR KEEPING THE TEETH CLEAN.

At a meeting of the American Academy, December 1849, a paper was read by Dr. H. J. Bowditch, on the animal and vegetable parasites infesting the teeth, with the effects of different agents in causing their removal and destruction. Microscopical examinations had been made of the matter deposited on the teeth and gums of more than forty individuals, selected from all the classes of society, in every variety of bodily condition; and in nearly every case animal and vegetable parasites in great numbers had been discovered. Of the animal parasites there were three or four species, and of the vegetable one or two. In fact the only persons whose mouths were found to be completely free from them, cleansed their teeth four times daily, using soap once. One or two of these individuals also passed a thread between the teeth to cleanse them more effectually. In all cases the number of the parasites was greater in proportion to the neglect of cleanliness. The effect of the application of various agents was also noticed. Tobacco juice and smoke did not impair their vitality in the least. The same was also true of the chlorine tooth-wash, of pulverized bark, of soda, ammonia, and various other popular detergents. The application of soap, however, appeared to destroy them instantly. We may hence infer that this is the best and most proper specific for cleansing the teeth. In all cases where it has been tried, it receives unqualified commendation. It may also be pro-

per to add, that none but the purest white soap, free from all discolorations, should be used.

DESTRUCTION OF THE DENTAL PULP BY WEDGING THE TEETH.

March, 27, 1851.

DR. C. C. ALLEN,

Dear Sir:—I wish to trouble you with the perusal, and perhaps the answer of another letter, although I am well aware that you are incessantly annoyed by such correspondence.

I was called some five or six weeks since to plug some incisors for a lady of our village, among the number was a right central, (upper) decayed upon both sides. To make room for operating I wedged it, with another, apart, with a small fold of linen, and directed the patient to insert another piece to keep them sufficiently open if this came out, which was done, and the next day, about twenty-four hours after the first was inserted, I filled it with but little sensation—the cavity having been previously filled, but the filling out for some time.

Three days after this I wedged it on the other side, and filled it in the same manner—nothing peculiar about it except I noticed the tooth was easily moved in its socket, and directed it should be used carefully for a few days. Yesterday morning I was called in again to see the lady, and discovered this tooth was changed in its color, being almost a light pink or something of that tint, for two-thirds of the tooth from the gum down. The tooth was a little sore to the touch, and had that looseness which is consequent upon inflammation in the socket. I think the cause must be from injury in moving the tooth, as the fillings were small and the nerve cavity not exposed. But what explains the peculiar color? Did I rupture the artery, and the pulsations drive the blood through the pores, or tubuli of the ivory, and in that manner congest the tooth? The enamel is of that pearly white color, semi-transparent. Now, doctor, if I am right in theory what shall I do in practice? It is the first case I have seen of the kind. I applied a leech to the gum, and to-day blistered it with creosote. Will you give me your method of treating such, if they have frequently fallen under your observation.

One word more. Have you in use any machine for turning the edges of the upper plates? if so, what is the cost, and where may they be procured. I got up a plate the other day, and wishing it to look pretty well, took it to the tin shop, and turned the edge for about one-eighth

of an inch, to an angle of 45 degrees from the plate, and ground my teeth, and fitted them perfectly between this edge and the main plate. It finished very nicely, and is, I think, an improvement.

Yours, most truly, S. S. B.

Remarks upon the above.

Several years since, soon after commencing the practice of wedging teeth, an accident similar to the one described by our correspondent happened in our practice. Some weeks after carefully, as we supposed, forcing the two superior central incisors apart, to make room for filling one of them, a pustule appeared over the extremity of the fang, and the tooth had that peculiar bluish color which always indicates a loss of vitality in the nervous pulp; but there was none of the redish color, observed by our correspondent, and which seems to perplex him so much. It is possible that in our case the death of the pulp resulted from a slight exposure to the caries, but at the time we did not think it had been reached, if not it must have been by inflammation induced by the operation of wedging.

A difference of opinion exists among dentists about the best method of wedging teeth. While most of them are very cautious not to force the operation, but make it as slow and gradual as possible to avoid soreness, others go on the opposite extreme, and contend that the teeth may be suddenly forced apart in the course of six or eight hours, and the cavities filled before inflammation sets in. But a few evenings since a dentist of uncommon skill assured us that his common practice was to insert a thick piece of India rubber in the morning and fill the teeth in the afternoon, or insert it in the evening and fill early next morning, and that he much preferred this practice to the slow method, as less troublesome to both himself and his patient, as well as being attended with less pain. We have never tried this Herculean practice, but have always been exceedingly careful to spread the teeth slowly and without pain. For this we generally begin with a very thin piece of India rubber, and if the patient cannot conveniently call again next day, we provide him with a number of pieces of different degrees of thickness, and show him how to change them, and gradually introduce from day to day a thicker piece until the teeth are sufficiently parted.

The "pink" color which our correspondent observed was the natural result of congestive inflammation of the pulp by which the red globules of blood were forced into the bony structure of the tooth. Frequently this color, after a short time, changes to a bluish or brownish hue.

The only treatment which we have ever found successful for discolored teeth is that of excavating freely and filling with gold, which, if the tooth be of a yellowish hue, will generally restore it to near its natural color; but if it were originally very white, then perhaps it may be made nearer its own hue by placing arbestos in the front part of the cavity and filling it up with gold in the back part. Of this operation, however, we cannot speak with much confidence. At a future time we may give the result of some experiments which we have recently tried in cases of this kind.

We have never used any machine for turning the edges of upper plates. We prefer protecting the edges of the artificial gum with a band soldered to the plate, which leaves the edge free to be cut or bent if necessary, to prevent cutting or irritating the membrane.—*Editor Recorder.*

THE RESTORATION OF COLOR TO DEAD TEETH.

BY HUDSON S. BURR, M. D., PHILADELPHIA.

DR. ALLEN:—Having perused an article in your valuable periodical on experiments made to whiten or restore the natural color to teeth discolored by accident or otherwise, and as I have for some time past experimented on the same subject, I feel it incumbent on me to state the result of said experiments.

It is a little singular that the experiments of Dr. Rich should so nearly correspond with mine, differing only in the paper—mine being letter paper. Not satisfied with the result, I continued my efforts until I succeeded to my utmost wish, and am happy to say to the full approval of my patients.

My method consists in drilling into the back of the tooth, as low down as practicable, removing all discolored bone, and all the contents of the root, which can readily be seen by using a small mirror. I then fill up the root of the tooth as far as the edge of the gum with gold. I fill this with the utmost care, as on this part of the operation depends the color of the tooth being preserved. I then fill up the body of the tooth with finely powdered quartz, (I find the best colored to be the small white pebbles picked up on the sea beach,) this I carry to the cavity of the tooth on a small gum lancet, and introduce it with a plugging instrument that will enter the cavity with ease. I make this as solid as possible by pressing it in with cotton, and then fill the opening with gold and finish in the usual way.

I do not find it always requisite to drill into the back of the tooth, as

the lateral cavities are often large enough, through which I am enabled to perform the operation with equal facility.

I have recently had the satisfaction to see a tooth I filled five years since. It retains its white healthy appearance, and what is peculiar in this case, the tooth died without accident or decay. Another case somewhat similar occurred, and is accounted for by the lady grating her teeth when asleep. The tooth is a right lateral incisor, a little longer than usual, and locks against the under teeth, and awakens her, the tooth feeling quite sore from the effect. It eventually died though not decayed. I restored the color in the manner stated, which it has retained now more than three years.

COMMUNICATION FROM DR. E. PARMLY

To the Readers of the Dental Recorder—

Dr. Allen informs the readers of the Recorder that some one has said that "It is evident from Dr. Parmly's writings that he is contending for victory and not for truth." I would in all respect and good will say to that person that it is truth, and truth alone, that I am contending for; and the victory will be gained (and I care not who gains it) in the triumph of truth over error—science over quackery, and correct professional practice over extortion, knavery and imposture—and so far from saying, or desiring to say,

"I never blot,

What once I've written whether right or not,"

I would most gladly yield any point however earnestly I may have contended for it, or however long or fondly I may have cherished it,—where the slightest semblance of error can be found, or where he or Dr. A.

Forsooth,

Can cast one shade to mar its truth.

But Dr. A. will find that something more than bare assertion is necessary to "blot" from his pages even the smallest word, when placed there by the unerring testimony of scientific investigation. Not being a professed journalist, Dr. Allen, who is one, may perhaps with much propriety and justice find fault with my mode of presenting facts, which he might with greater perspicuity and clearness state; but I will defy him to make them anything but facts, "twist and turn them as he may." And, if he will name any one that is not clearly stated, I shall be glad to make it more clear and definite. Since Dr. Allen first commenced his personal "remarks," and that too after he had promised in the

most friendly manner my name "Should not appear again *in connection with that controversy*, nor would he further notice it himself;"* (of which promise he has given three different and contradictory versions, without falling upon the true one) he has said much that is uncourteous, unfriendly and uncalled for, in the line of his duty as editor, by which acts he has sacrificed personal respect at amalgams' shrine and forfeited his claim to social obligation. I hope in future that he will for his own sake, and for the respectability and usefulness of his Journal, follow the example of the able editor of the New York Medical Gazette, Dr. Reese, who says, "That personalities are inadmissible in a scientific discussion." The gentlemanly editor of the Dental Register of the West, Dr. Taylor, has also expressed a similar opinion, and, I will venture to say, there is not a respectable professional Journal in the world whose editor has indulged, to the same extent in unbecoming personalities, and harsh and unprofessional "remarks," wholly unknown to, and unpracticed by leaders of scientific Journals. (A)

It is well known that many of the most highly distinguished dentists in this country have as decided an aversion to amalgam as I have or ever had, and they never use it. Some years ago I said, and say now, that I have no confidence in the professional honesty of any one who says "amalgam is better than gold," and who uses it accordingly. As an ordinary or common stopping for teeth, I believe that amalgam is univer-

* Dr. Allen has tried very hard to get rid of the positive certainty of breaking his promise, but cannot do it. He says in his "remarks," "It would be just as fair to say that the famous 'church without a bishop' controversy was carried on in the Journal of Commerce because that paper copied the letters of Drs. Potts and Wainwright from the Commercial Advertiser, for which paper they were written, as to say the amalgam controversy was begun or carried on in the Dental Recorder. Try again, Dr. Parmly, my promise holds good yet." If Dr. Allen's "promise holds good," his statement, if applied to me, does not, for I never said that the controversy was either "begun or carried on in the Dental Recorder," and in what I did say I wished only to be understood that the Dental Recorder commenced publishing the articles on the 1st of June 1847, which was previous to the date of the "insulting and libellous circular." The dates of the articles prove that nothing more was meant. By way of illustration I would say that there was but one "church without a bishop controversy," and there was but one "so called" amalgam controversy, and "*in connection with that (amalgam) controversy*" "so called," Dr. Allen says he "promised that his (Parmly's) name should not appear again, and that he would not farther notice it himself." Now if the editor of the Journal of Commerce, at the close of the "Church without a bishop controversy," had "*promised*" Dr. Potts that "his name should not appear again *in connection with that controversy*, and that he would not further notice it himself."—I think Dr. Potts would have firmly relied upon that gentlemen' truth and honor, and would not have expected that the editor could so far dishonor both as to print without cause or provocation two years afterwards in his paper, that Dr. Potts had in one of his letters during the controversy "published an insulting and libellous circular" against all Episcopalians, "*himself included*." In doing this, in violation of his promise, I leave others to judge whether the editor of the Journal of Commerce would or would not have most decidedly dishonored his word. Will Dr. Allen favor us with a *fourth* version of his promise?

sally disapproved by all good dentists. And yet Dr. Allen now says, and I quote his own words, "*Dr. Allen thinks and says that amalgam is better than gold.*" Now there may be those unacquainted with dental surgery, who would be as honest in saying "that amalgam is better than gold" as Hertz, was, in saying, in his treatise on the teeth, "that the best way to remove tartar from the teeth is to cover them with some adhesive gum, (I believe trajacanth) and in pulling off the gum you would pull the tartar off with it."* But such is not the character of Dr. Allen; he is a learned man and "scientific dentist," and being an M. D. the profession has a right from him to expect better things. There may be those who think that Dr. A. is perfectly sincere and honest in saying what he does—and I will not say that *he* is not, but we all know that it is not so—if Monsieur Mallan was to say so we should not believe him under oath, and so little do we think of the moral honesty of the Crawcours who would say the same thing, that we would not venture to leave our pocket books or purses where they could seize upon either the one or the other. (B)

I have repeatedly denied the charge made by Dr. Allen "of classing all together, who use amalgam," and will now give a proof that I have not done so, published some years ago—"I believe there are marked and wide differences in their character and principles *but the amalgam made by them*, as far as I have seen, and had an opportunity of judging, is indentically the same."—The amalgam stoppings then, and not the men are alike, and the stoppings of the Crawcours were as good as any I have seen since—and in many instances altogether better, both in material and workmanship.

In addition to the above I would also add that there are those who occasionally use amalgam, as they affirm, "where nothing else can be used," that I have now and have for years had a respectful and friendly intercourse with, and whose professional merit entitles them to high regard, but I never heard any one of them pretend to compare amalgam with gold, or even own that they ever used it where gold could be successfully employed. Such men are not, and never have been called "amalgamists." Those only are so distinguished who, like Dr. Allen, say without qualification "that amalgam is better than gold," but who, *unlike* Dr. Allen, use it indiscriminately.—And, if I understand Mr. Smartt, it was that class of dentists, and that class only, that he had before his mind when he wrote to the editor of the London Lancet—

* I quote from memory.

‘Let us ask your powerful aid in enlightening the medical profession, and the *all* necessary public that all dentists are not blacksmiths, barbers or amalgamists.’”

Dr. Allen, after once more charging me with “classing all together who use amalgam,” says “I do not believe that that writer (Mr Smartt) ever intended to depreciate the merits of either Cartwright, Nasmyth, Tomes or Brewster, who are in the Parmlyan sense AMALGAMISTS.” As an act of justice to those gentlemen, as well as to myself, I call upon Dr. Allen to prove his assertion. (C)

For the sake of professional truth, I had a careful chemical analysis made of amalgam by one of the ablest chemists in this country, to show its quality and prove its pernicious effects upon the teeth. The teeth first submitted for chemical examination, were filled with amalgam by the Crawcours—the result of the analysis I believe was precisely the same as that made in the examination of Dr. Chilton for myself, which I here subjoin.

“New York, Nov. 13, 1851.

“E. PARMLY, Esq.—Dear Sir,—In accordance with your request, I have made a chemical investigation of the various decayed teeth which you handed me, the cavities of which were more or less filled with the amalgam of silver and mercury. These teeth presented the appearance of having been filled a long time previous to being extracted. The metallic filling of each was quite black, and in some it was of a porous or spongy texture. Upon breaking open the teeth, and removing the fillings, the cavities, to a considerable depth, were found to be greatly discolored, some being quite black, and in one it was of a dark green color, which extended even to the extremity of the roots.

“From the various experiments which I have made, both upon the external surface of the amalgam found in the cavities of these teeth, and upon the discolored portions of the teeth themselves, I have no doubt that the discoloration has been produced by the decomposition of a portion of the amalgam by the agents with which it has come in contact in the mouth, thereby producing both oxide and sulphuret of mercury, with a portion of sulphuret of silver.

“The tooth, the root of which was colored green, contained oxide of copper, no doubt derived from the amalgam which may have been made by mixing mercury with the filings of ordinary silver coin, which always contains a portion of copper.

“Very respectfully, yours, JAMES R. CHILTON.

In order to show that there is no difference in amalgam whether it is made by a learned or an unlearned man, or whether used by a Cartwright or a Crawcour, I here submit a microscopic examination of a tooth that had been filled but two years and which was filled by a dentist whose character stands as high for scientific attainments as that of any dentist in this country or in Europe, and which examination was made by that highly distinguished and accurate professional gentleman, Dr. Henry Goadby, whose name is sufficient guarantee for its truth and accuracy, and which, with the analysis of Dr. Chilton, proves conclusively, and beyond the power of Dr. Allen to gainsay or disprove, all I have ever contended for in relation to the immediate and destructive effects

of amalgam. The following letter from Henry Goadby, M. D. F. L. S., late dissector of minute Anatomy to the Royal College of Surgeons of England, now in this city, who is well known to medical and scientific men throughout the world, for his accurate research in Science, proves what I have so long contended for, and shows demonstratively and conclusively, the unfitness of any preparation of mercury as a stopping for the teeth; from its permeating their solid structure, and totally destroying their living tissues.

224 Wooster street, *New York*, 27th January, 1851.

TO DR. E. PARMLY—Dear Sir: I have carefully examined the molar tooth which you recently gave me for that purpose, and the following account gives the result:

On inspection without the aid of a microscope I found that a large cavity had existed which had been filled with some metallic stopping—not gold. The upper half of the exposed surface of the tooth and the lower half of the fang presented a natural appearance, while the remainder of the tooth between these extreme points, and comprehending about one half of the whole, was colored *dark green*. I made three longitudinal sections for microscopic investigation, and found that those tubes of the Dentine which opened into the artificial cavity of the tooth, and were necessarily in *intimate contact with the metallic stopping*, had absorbed it completely and were filled with it.

The greatest depth of color visible on the external surface of the tooth, agreed, accurately, with the *length* (depth) of the stopping. From the internal boundary line of the artificial cavity of the tooth, the metal had *ascended* into the Enamel and *descended* into the Crusta Petrosa. In the latter tissue the Corpuscles of Purkinje and their connecting canaliculi were as full as the Dentinal tubuli; but, what is most remarkable, *the solid prisms of the Enamel* have in like manner succumbed to the penetrating influence of this amalgam. I am, my dear sir, faithfully yours,

HENRY GOADBY.

I would in conclusion add, that however strongly the advocates of amalgam may recommend it, and many of whom use it only for convenience and gain, wholly regardless of consequences—while others use it from a total want of professional skill and ingenuity, and can use nothing else, its true character and its active effects upon the teeth, will be found in the foregoing testimony, which truth can neither controvert nor set aside.

E. PARMLY, No. 1 Bond Street.

May 12, 1851.

Remarks upon the Above.

BY THE EDITOR.

(A) I am well aware that the present controversy with Dr. Parmly is as unpleasant and distasteful to many of the readers of the Recorder as it is to me, and should have refused to publish the above communication if I had not felt desirous to give my readers another specimen of his unfairness and inconsistency. If the course of the Recorder has been such as to deserve this censure, let it come, not only from Dr. Parmly but from the whole profession; but if not, let it be visited upon the one who does deserve it, for his “unbecoming personalities, and harsh and unprofes-

sional remarks" upon those who differ with him as to what is and what is not correct practice, until he retracts them.

As this is the last article, of this character, which will be admitted into the pages of the Recorder, and as it is mainly a repetition of what has been already discussed, I shall have but few remarks to make concerning it.

All that Dr. Parmly has had to say about my promise not to mention his name again in the Recorder, it seems to me is the verriest kind of quibbling. I have given my understanding of that promise fully, but without pretending to give the exact words made use of at the time, and it was simply not to continue, or allude to, the unpleasant personal controversy which was carried on *in the Recorder* between himself and Dr. Baker, and which was entirely different, as I have always considered, from what was commonly called the "amalgam controversy;" but whether it was, or was not the same, and whether Dr. Parmly said that it was *begun* or "commenced" (which is the word used by him) in the Recorder, are mere questions about the difference between tweedledee and tweedlededum, which I don't care to discuss any farther. All that I contend for is the right to be governed by my own understanding and recollection of that promise, in the absence of proof to the contrary, without being accused of falsehood or dishonor, either by implication or expression. In my opinion the man who uses such language, without offering any proof to sustain it, dishonors himself more than his opponent. Dr. Parmly was the first to indulge in improper and scandalous language against his professional brethren, by publishing in the newspapers that he had no confidence in the integrity of those who use quicksilver for stopping teeth, and thereby applying his powerful influence to break down the practice of many Dentists who are fully his equals, if not superiors, in moral and intellectual qualifications. This, in his opinion, is not only allowable but "an act of justice" while bastarding the *geese*, but when the same sauce is applied to the *gander*, it becomes "uncourteous, unfriendly, and uncalled for"—"unbecoming personalities, and harsh and unprofessional remarks."

"Oh, wad some power the giftie gie us,
To see oursels as others see us:
It wad frae mony a blunder frae us,
And foolish notion."

(B) When Dr. Parmly published his insulting and scandalous assertion, that he had no confidence in the professional honesty of any dentist who would use amalgam, *saying that it was better than gold*, every sensible person saw at once that he condemned all who ever

used it, because no dentist, however honest and conscientious he might be, would use it except in cases where he believed it to be the best practice, and in all such cases would say that it was better than gold. The trick of the thing lay in the indefiniteness of the language, for while it actually condemns such men as Trenor, Baker, Lovejoy, Clark, and many others of the highest respectability, when asked by one of them if he intended to apply it to *him*, he could reply "By no means, my friend," and to another person said, "I have no doubt but what you can use it without doing any injury." If Dr. Parmly had added to his insulting and libellous circular, after the clause "saying it is better than gold," the words "*as an ordinary and common stopping for teeth*," it would have contained no insult and no libel, and would not have frightened any patients from the offices of other dentists nor decoyed them to his own. I do not mean to say that Dr. Parmly either intended or saw the double meaning of his language; but if he did not he is not that "learned man" which he gives me the credit of being. I do most certainly think and say that amalgam is better than gold, *in all cases where I either use or recommend it*; but in no others, and with this explanation, which the readers of the Recorder did not need, I may hope to escape the imputation of dishonesty, which he so cunningly seeks to fix upon me, while I shall appropriate all the credit which he gives me of being a "learned man and scientific dentist," because Dr. Parmly is high authority.

(C) Dr. Parmly says, "The amalgam stoppings then, and not the men, are alike;" but he also says, "I have not yet seen one (tooth filled with amalgam) that did not bear marks of reproach to the practitioner who performed the operation, and clearly demonstrate that professional skill, professional knowledge and common honesty were wanting *in the operator* to an equal degree that one or the other of these three qualities were wanting in the Crawcours, who mixed the ingredients as well and used them quite as successfully." If Dr. Parmly does not here class them all together, he certainly, if I am learned enough to understand his language, classes all those whose fillings he has seen with the worst specimens of Amalgamists. In the February number of the Recorder, I gave some of the language of Dr. Parmly in reference to amalgam and amalgamists, and an account of some of his acts, which I think are sufficient to prove that he has always meant to class all together who use amalgam. If others understood him differently I am very glad of it; but of the hundreds of dentists which I have conversed with since

my connection with the Recorder, I have not yet spoken with one upon this subject, who justified the course taken by Dr. Parmly. I am very glad to see even this halfway admission that there are some honest, respectable dentists who use amalgam, though it would be more honorable if Dr. Parmly would come right up to the mark and acknowledge the fact fully and fairly.

(D) There is nothing particularly new, interesting, or instructive, in Dr. Chilton's old certificate, which has already been published and reviewed in the Recorder, nor in the letter from Dr. Goadby. I have teeth in my possession which I have no doubt are worse than either submitted to those gentlemen, in which every portion of the crowns and fangs are stained black and green by amalgam. I have also several, which had live nerves in them when extracted, and which, except a very thin film in some parts, immediately in contact with the amalgam, are not discolored in the slightest degree, although they had been filled several years with amalgam; nor do I believe that any adults tooth, with a healthy nerve, will ever be discolored with an amalgam made of chemicalty pure materials, beyond those parts which have been softened by caries. It will at all times give me pleasure to publish anything reasonable, either for or against amalgam; it was for that purpose more than anything else that the Recorder was established; but personal controversies I have no desire to engage in. While I disclaim ever having indulged in offensive personal remarks, I have not shrunk from defending either myself, the profession to which I belong, or the Society of Dental Surgeons, of which I am a member, from gross and insulting attacks, come from what quarter they may. I believed the circular of Dr. Parmly to be both insulting and libellous, (in the sense already explained) and so expressed myself, without thinking or caring whether he would like or dislike it, and I am not alone in this opinion, others, and those who stand as high in the estimation of the profession and of the public as he does, entertain the same opinion, as also members of the medical profession with whom I have conversed. If Dr. Parmly is willing to state in the columns of the same paper where the insulting and libellous circular was first published, that he did not mean to censure all who use amalgam in their practice, when he published it; but that "there are those who occasionally use amalgam, as they affirm, where nothing else can be used," successfully "that I have now, and have for years had a respectful and friendly intercourse with," (his own language now,) I will, although the mischief has been done, cheerfully retract all offensive language which I ever wrote about the circular.

PROFESSIONAL TOUR.

Many of our subscribers will undoubtedly receive a visit during the present year, from their old friend Dr. Solyman Brown, who proposes to make a professional tour throughout the United States, the British Colonies and Europe, for the purpose of presenting to the profession the late improvements in Mr. S. W. Stockton's mineral teeth. He will also be able to furnish in moderate quantities all kinds of teeth from the same manufactory, of less recent dates, yet of excellent quality, great diversity of styles, sizes and shades, and at prices well calculated to encourage purchasers, for either private use or the retail trade. This will afford every dentist an excellent opportunity to replenish their stock of teeth at moderate prices.

Dr. Brown is also an agent for the New York Dental Recorder, and is authorised to receive the subscriptions now due, and also from new subscribers. He will also take with him specimens of Chevalier's instruments, Hill's stopping, &c., &c. He leaves competent agents during his absence at his Dental Warehouse, 333 Broadway.

The Physiological Effects of Sulphuric Ether, and its Superiority to Chloroform, by WILLIAM T. G. MORTON, M. D.

The circumstances attending the first few operations under the influence of ether, administered to prevent pain, and its entire success are here detailed by the author, but the principle object of the above pamphlet seems to be to demonstrate its superiority to chloroform. There is, we believe, but little doubt now entertained upon this point, as the ether seems to have displaced chloroform in most of our hospitals. It is now considered quite as reliable and much less dangerous. According to Dr. Morton there has not been one well authenticated fatal case from the use of ether, while several have resulted from the effects of chloroform. The disagreeable effects of chloroform upon adults are very common, so that most dentists have discontinued its use or substituted ether; but for children we have always found it to answer an excellent purpose. A few inspirations of the vapor will generally dissipate all fear, and give them courage to submit to the operation.

This is all that is necessary, for when it is over, delight takes the place of fear and hesitation, and the pain is entirely forgotten. On account of the disagreeable odor of ether in the office we generally use chloroform for children.

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No. IX.

FILLING TEETH.

BY JAMES TAYLOR, M. D., D. D. S.

The present number closes the remarks of Dr. Taylor, upon that class of cavities which occur upon the approximal surfaces of the teeth ; a class which, on account of their frequency and the difficulty of successfully treating them, are of more importance than any other. Again we recommend the attentive study of this address to all those whose mode of practice has not been proved and found to answer to their satisfaction. Upon many points of practice Dr. Taylor's descriptions are more minute and instructive than anything that we have ever seen, and, taken as a whole, we do not think any article has ever been published upon the subject of filling teeth so full and explicit as this.—*Ed. Recorder.*

“Some of the most difficult approximal cavities to fill are those on the anterior surface of the posterior molars, the anterior molar standing a little more prominent, and the posterior pressed against this by the dens sapientia. The cavity with an ordinary space is generally much hid from view, and that portion with its wall formed by the grinding surface of the tooth, completely so ; so that the direction of force requisite to fill this portion of the cavity must be from the neck of the tooth, yet the pressure is most apt to be made just the reverse. I hope it will be borne in mind that I am pointing out difficulties not to the old and experienced operator. He has overcome them, but these are difficulties which every young operator will meet with, and the only way to overcome them is to take a firm stand and so make your space as to have complete access to every portion of the cavity with your plugging instruments. The objections and foolish prejudices of the patient must not be heeded. Unless you can operate according to your own plan you had better not operate at all.

“In the larger class of approximal cavities the drill will be found almost a useless instrument ; the excavators alone being those we shall have to depend on to remove the decay and form the cavity, and these should be kept in the most perfect order, having always on hand every form and variety which may be needed. For the formation of the cavity at the neck of the tooth, I like a simple curved excavator flattened at the point with the curve of the instrument ; the cutting edge of the instrument about as much bevelled as I wish the wall of this part of the cavity to be ; it may also be nearly as wide as the cavity is deep. The longest angle on the cutting edge of the instrument will be placed within the cavity, and by two or three cuts, circling with the neck of th

tooth, mark out the depth you wish this wall of the cavity. These first cuts will line off the cavity so as not to expose the nerve by the future part of the operation ; this instrument is then used in the same manner until the shortest angle of the cutting edge trims away the entire decay from the border of the cavity.

“ These instruments will have to be in pairs and made of different sizes to correspond with the depth of decay. These instruments with a variety bent at right angles with the bar of the instrument, some flattened so that their cutting edges shall be on a line with the bar, and others the reverse, will constitute those most used in the formation of these cavities.

“ In the smaller class of approximal cavities the drill may be used, more, however, to give form to the cavity than for the removal of the carious portion.

“ In approximal cavities when space has been obtained by the removal of a tooth, the cutting instrument and file may not be necessary, unless, indeed the border of the cavity is frail, or the enamel which covers the decay has not been broken in. If this should be the case they will have to be used, but not to the same extent as where a tooth has not been removed. The border of the cavity should, however, always be firm and solid, not crumbling and breaking in under the pressure necessary for the consolidation of the gold.

“ A separate description of the preparation of approximal cavities in the inferior teeth, scarce requires any other description than that already given of the superior. The spaces to be made are the same between the molars and but little difference between the bicuspid, except, indeed, not as a general rule, cutting so much from the palatal portion of these teeth.

“ When we come to the incisors, however, the same amount of filing is not admissible. The teeth are smaller, the cavities cannot penetrate very deep into the teeth, and much of the tooth removed from any cause would preclude the operation of filling without an exposure and destruction of the nerve. We find here, I think, the decay more frequently presenting to the labial face of the teeth. This enables us to fill frequently without any separation. When, however, much space is desirable, these teeth can be easily separated by wedging.

“ We come now to speak of the introduction of the foil in the filling of these cavities, and we take first the cavities in the inferior incisors. I stand at the right side and facing my patient, turning the face either to or from me, as the cavity may be in the approximal surface of the tooth nearest to, or farthest from me. If, for instance, it is the central left incisor, the cavity on the anterior approximal surface, the patient's face is slightly turned from me ; a napkin folded over the tongue, and its folded corner brought around in front of the tooth, and is made to cover the gum and mucous membrane of the lip, which, however, if possible, should be turned inward and so held by the napkin, which is held in place by the forefinger of the left hand, with the thumb retaining the

in place over the tongue, and grasping the palatal surface of the

tooth. The arm is thus thrown over or around the patient's head, and the three remaining fingers placed under the chin. The patient's head, chin, tongue and lip are now under my control.

"The foil has been prepared by folding it from four to eight thicknesses, and cutting into a strip more than is sufficient to fill the cavity, but not as wide as the mouth of the cavity itself; a block is then folded on the end of this strip as large as can well be placed endways in the cavity. The cavity being dried this block or roll is with care adjusted and firmly compacted in that portion of the cavity nearest the gum. This block I introduce with my plugging forcep, and then take up a suitably curved and sharp pointed plugger, and with this, fold after fold of the strip is introduced. If the cavity is large, or large for one located in these teeth, I sometimes first introduce some two or three of these blocks and then finish with a few folds of the gold. In the compacting and consolidation of the gold, the tooth is grasped firmly with the forefinger and thumb; a resisting force is thus applied to the tooth, and we are thus enabled to make the requisite pressure to consolidate the gold without injury to the tooth. After the last fold of gold has been well secured, I take my pointed plugger and pass it around the border of the cavity, compressing every point of the gold as I advance, and thus continue passing round, and each time nearing the centre of the plug, until I have thus made pressure over the entire surface of the gold. I then take a flattened instrument, (and if the space is sufficiently large,) this is cut on its surface rough like a file, and with this make as much pressure as the size of the plug demands. The surface of the gold is then filed down and made level with the margin of the cavity. In this operation I should always expect the solidity of the gold to be such by the time the last fold of gold was forced in, so that in passing my plugging instrument over the filling there will be more gold protruding than is possible to be forced into the cavity. This description will answer for the anterior approximal cavities in the inferior incisors and canine of the left side, and the posterior approximal of those of the right side. The insertion of the gold, indeed, in the other cavities of these teeth will be the same, but the manner of holding the tongue, lip, teeth, &c., will require a little explanation.

"In the reversed cavities of these teeth the patient's face is turned more toward me; the fold of the napkin is reversed, still keeping, however, the end next the lip. The forefinger of the left hand is placed on the napkin over the tongue pressing against the palatal face of the tooth and sometimes the middle finger farther back on the tongue. The thumb is placed on the end of the napkin over the lip, and lays hold of the labial face of the tooth. This arrangement enables me to keep the tooth dry, and make counter pressure on the tooth when filling, and in adults, or with those who can maintain a fixed and firm position of the inferior maxillæ, the position and arrangement is a good one; but when support to the jaw appears to be more essential while introducing the gold, the forefinger may take the place of the thumb, the middle finger that of the forefinger, and the thumb thrown under the chin. Af-

ter the foil has been introduced the position of the left hand may be changed as desired, so as to most effectually aid in consolidating the plug. These teeth I generally fill from the outside. In irregularity of the teeth an occasional exception occurs; the change of position, &c., must then be in accordance with the location of cavity, and for which I shall now give no special direction.

"In the filling of the inferior bicuspid, I frequently use the napkin and left hand as above directed, especially when operating for young and unsteady patients, who cannot hold a firm jaw, and manage the speculum as I desire. I prefer, however, the use of the speculum when it is at all applicable, because I have the more free use of both hands in operating. Its application is much the same as in the filling of the central cavities of the inferior teeth, only the folds of the napkin should be more carefully held against the margin of the gum, and lying under the edge of the tongue opposite the tooth to be filled, and under the fold of the napkin a lock of cotton may be placed to take up the saliva, and keep the cavity perfectly dry.

"My position in the filling of these teeth is to the right and in front of my patient, excepting in a few cases in the filling of the posterior approximal cavities, when I take my stand rather behind my patient on a platform ten inches high, made as wide as my chair, the base of which my chair and footstool stands upon. The patient's head is thrown slightly forward or held on a line with the body. Those cases where I should take my stand behind my patient, would be when the posterior approximal surface of either bicuspid, and sometimes the molars, had not been bevelled sufficient to expose the cavity to view when standing in front. In cases of this kind the cavities are not large, and I should prepare my gold as described for the inferior incisors, and with my plugging forcep which is bent at near right angles, but when closed, flattened the reverse at the point from that used in the introduction of my blocks in the central cavities. After the block or roll has been pressed to its place, I either take up a bent plugger adapted to such cavities, or use my forceps; taking hold of the strip far enough from its connection with the block introduced, so that when folded, and the point I have hold of is drawn into the bottom of the cavity, the end of the fold projects. This method is very accurate and answers admirably until the cavity is nearly filled. when the forceps will have to be closed and used as a common plugger, or such an one selected. The last instrument used in this part of the operation should be small and sharp at the point. The operation thus far advanced, a flattened instrument which can pass between the teeth should now be used to force in as much of the projecting foil as is possible, and then before the appliances for keeping the tooth dry is removed, pass a sharp pointed plugger over the surface of the gold, compressing and feeling of every point. In the use of the compressing instrument, the tooth being filled should be grasped with the thumb and forefinger of the left hand. If care has been taken in the introduction of the gold in cavities of this size, no point on the filling will admit the point of the sharpest plugger, so as to require any addition of foil. In small cavities where this is the case I prefer refilling at once.

“In the larger class of cavities now under consideration, a different procedure is somewhat necessary. The cavity is almost entirely filled with blocks, but as that portion of the cavity nearest the gum is deepest, owing to the bevelling of the tooth; so the blocks used for this part should be the longest. We also find here the border of the cavity formed by the grinding surface of the tooth often depressed, so as necessarily to change the manner of introducing the gold. That portion of the cavity nearest the gum, however, should be first filled, and when the cavity has been filled to the depressed border, then that portion under the palatal prominence, and finish under the labial. This condition of things is, however, more observable in the superior bicuspid, yet often to be met with in the inferior bicuspid and molars. The folds of gold have been so carefully arranged in these blocks that by proper care in their introduction, using considerable force in compacting as they are introduced, we shall have a solidity of gold hard to be procured in any other manner. I would here remark that the shape of the cavity at the neck of a tooth with its wall sloping inward, draws to the centre of the cavities these blocks of gold. The pressure can then be made to the centre of the tooth on an axis with its root, until we approach the last part of the operation in the introduction of the gold; when we come to wedge in, as it were, a few folds of foil under the wall of the cavity formed by the grinding surface of the tooth. Care should, however, be taken, during the whole of the operation, to force into the bottom of the cavity the blocks of gold. In these large cavities, after I have made compression on the protruding ends of my blocks of gold, I examine carefully every point on the surface of the filling, and if a sharp pointed instrument can be introduced, it is done, and pressure made from this point to enlarge the opening; so that this becomes a cavity in shape to hold a plug, when a few folds of gold is introduced and compressed with the other.

“When care has been taken in the introduction of the gold and the border of the cavity has been sufficiently firm to resist the amount of pressure I usually make, I should not expect to make openings into the filling already introduced, for its more perfect consolidation. Yet, when the border of the cavity is necessarily frail, such may be the case; the instrument then should be introduced, not too near the weak wall of the cavity, but leave as much gold between it and the instrument as can be made solid without breaking it in. A few folds of gold will be a great protection, and prevent an injury to the cavity which might be irremediable.

“Generally the molar teeth are sufficiently firm to resist an amount of pressure necessary to consolidate the gold. When this is not the case, they should be held with the left hand of the operator. The pressure necessary to consolidate a plug, will depend on the size of the plug and the regular arrangement of the folds of gold in the cavity.

“The instruments I use for consolidating the gold in these large cavities are bent at near right angles; some flattened with the bar of the instrument, and some the reverse. They are large and strong: the sur-

face deeply cut like a coarse file, and will bear any amount of pressure which can safely be made on the tooth. After I have used these until I find the gold is solid and firm, I take a file (one, perhaps, which has been partially worn out separating these teeth,) and file away that portion of the gold protruding beyond the margin of the cavity; but before this has been completely effected, I take a blunt pointed plugger and make pressure entirely around the edge of the plug. Then use the file until it strikes on the enamel around the filling. We will still often have along the edge of the plug, next the grinding surface of the teeth, a fullness of the plug, occasioned by the curving in of this border of the cavity, which is the result of the depression on the grinding surface of the teeth already described; here then we take a small file, the blade of which is short and flattened, the cutting surface slightly rounded, the blade is bent with the handle to an angle of almost forty-five degrees; with this we bevel away the gold to correspond with this curved line of the border of the cavity. I would not be thus particular in this description, but these files are lately introduced, and are invaluable in cutting away the surplus gold of a plug."

To be continued.

For the Dental Recorder.

ULCERS IN THE MOUTH.

LYONS, June 10th, 1851.

Mr. Editor:—In the April number of the American Journal of Dental Science, we find an article on the ulceration of the tongue, cured by the removal of two amalgam fillings. The article seems to be written with a good degree of candor and fairness, but the editor does not tell us of what the amalgam plug was made, but we hope he will do this in a future number of the Journal. As the case now stands, we do not know whether the plug was made of the Paris Dentist's copper amalgam, or of common coin silver, combined with the mercury of the shops, which is almost always adulterated with lead, or of chemically pure silver, and chemically pure quicksilver. Oxide of lead or of copper, might produce the effect spoken of—but the point which we all wish decided is, "Will chemically pure silver and quicksilver ever effect the mouth injuriously?" Should it be proved (which I very much doubt) that one plug in ten thousand did effect the mouth unfavorably it would not deter me from the use of the pure article—they would only constitute the very rare exceptions to the general rule. If morphia does sometimes produce hysterics, instead of calming the patient; if the quantity which will agree well with one patient has been known to produce death in another, this fact does not deter the judicious practitioner from prescrib-

ing morphia whenever he thinks it necessary for the good of his patient. The fact that occasionally a person becomes religiously insane, would not justify the community in neglecting attention to the holy principles of a pure christianity, which in the main have a tendency to calm, soothe and elevate.

We are pleased with the spirit with which the case is stated, and we hope every one who has any facts in reference to pure amalgam plugs will place them before the profession. We want the "truth—the whole truth—and *nothing but the truth.*"

SYLVESTER.

The following is the article alluded to by our correspondent.—*Ed. Recorder.*

Ulceration of the Tongue Cured by the Removal of Two Amalgam Fillings from the teeth —Mrs. —, a lady of high respectability of Baltimore, about twenty-eight years of age, called on us, the 17th of May, 1850, to obtain our opinion with regard to the condition of her teeth, and to have such operations performed on them as they might require. On examining her mouth, our attention was attracted to an ulcer, of a somewhat indurated character, on the under part of the right side of her tongue, where it came in contact with the grinding surface of the last molar tooth. Observing a large amalgam filling in this tooth, with a black oxydized surface, though it had apparently been put in and finished in a very perfect manner; it immediately occurred to us that the ulcer of the tongue might be connected, in some way, with it—or rather, that it had been caused by the action of a corrosive oxyd, formed by the union of the mercury with some of the acids of the mouth. The correctness of this opinion seemed to be confirmed by the fact, which we learned from the lady, that the ulcer had not developed itself until some two or three months subsequently to the introduction of the amalgam into the tooth, which had then been in about nine months. Although it had been touched several times with nitrate of silver, it manifested no disposition to heal; on the contrary, it had for some time been gradually assuming a more and more aggravated character. On mentioning our suspicions, the lady at once determined to have the tooth removed, as she had been assured it could not be filled with any other material. We, however, dissuaded her from this, advising that the amalgam should be first removed, and then, if the tooth could not be filled with gold, we told her it would be time enough to extract it.

After taking the amalgam from the tooth, we proceeded to fill it with gold, four hours and a half being occupied in the operation.

The ulcer in the tongue almost immediately began to assume a healthier character, and entirely disappeared in about six weeks.

About this time we were requested to perform any other operation upon the lady's teeth which might be required for their preservation, and as the socket of the second molar on the other side of the mouth, in

the lower jaw, was the seat of a very troublesome abscess, we at once removed the tooth. This exposed the surface of another large amalgam filling, in the anterior approximal surface of the third molar, and with which the tongue occasionally came in contact. The first and third molars having become somewhat loosened from inflammation of the peridental membrane, caused by disease in the socket of the second, we concluded to defer operating on these teeth until the adjacent parts should have assumed a healthy condition. In the meantime, some three or four weeks after the extraction of the above mentioned tooth, an ulcer developed itself on the side of the tongue, just where it came in contact with the amalgam filling in the third molar. A few weeks subsequently the amalgam was removed and the cavity filled with gold. The ulcer soon after healed.

Now what connection the amalgam fillings had with the ulcers on the sides of the tongue in this case, we leave others to determine, contenting ourself with simply mentioning the facts of the case. Comments are unnecessary.

PARTIAL SETS OF TEETH SUSTAINED BY AIR CHAMBERS INSTEAD OF CLASPS.

BY A. BERRY, D. D. S., RAYMONE, MISS.

Cases in which it is desirable to sustain partial sets of teeth without clasps frequently occur. There may be no teeth healthy enough to warrant the attempt to retain others by them; or, if free from disease, their organization may be so defective as plainly to indicate that if clasps are thrown around them, caries will inevitably ensue in a few years at farthest. Is it not a fact, that in a majority of instances, the dentist of experience and sound judgment considers the teeth to which clasps are applied as sacrificed? It often happens that we are required to insert plate teeth for persons in early life. How greatly is our pleasure lessened in such cases by the reflection, that while we gratify our patient by furnishing gems highly prized by him, we cause the ultimate loss of more of his natural organs. This has been a matter of necessity until within a few years past, but the discoveries in dental science fortunately supply a remedy for this evil. By the aid of air chambers we may now support pieces with any required number of teeth attached, when the use of clasps is considered objectionable. Although they may not in all cases retain the pieces so firmly as clasps, they will generally, if properly made, answer very well and afford satisfaction to the patient, who will, of course, prefer to submit to some inconvenience, if necessary, to preserve other teeth from ruin.

The perusal of Dr. Dwinelle's article on air chambers, and the des-

cription of the valve he had with great ingenuity invented for them, in the American Journal of Dental Science, for January, 1850, was highly gratifying to me. At the time of its reception I was constructing a piece to support four incisors with Dr. Cleaveland's chamber, I resolved to apply Dr. Dwinelle's valve, and did so with the most satisfactory result. A few weeks afterwards I applied the valve again to a piece with four incisors attached, and as before was delighted with its success.

In conversation with several of my professional brethren subsequently, they stated, that in their opinion the valve was useless, while I thought otherwise. One of my patients after wearing her teeth several months lost the valve, and when informed of it, to test the question of its utility, I filled the opening for it with wood, and when several days had intervened, I was informed by her that the teeth were held *in situ* as firmly as before. This intelligence was very gratifying, as the construction of the valve and spring is an exceedingly nice and difficult work. A short time after this I made another piece with four incisors, to be sustained by Dr. Cleaveland's chamber without the valve, and when it was inserted and the air exhausted, it was held so firmly, that the patient found his strenuous efforts to remove it unavailing, and I was compelled to insert an instrument under the edge of the plate to pull it down. It was retained with as much force as it could have been with a valve. I would remark that these pieces were constructed before I was aware that Dr. Cleaveland had obtained a patent for his air chamber. Instead of leaving the space between the plates open according to Dr. C.'s mode, I packed it full with gold foil and soldered it.

I recently made a plate for two teeth with Mr. Gilbert's chamber, which was sustained firmly and promises to do well. I built upon the plaster cast to form the prominence on which to strike up the chamber, with plaster of Paris of the consistence of thin cream, applied with a camel's hair pencil, preferring it to whitening from its drying sooner, and to beeswax, from the solution of the shellac drying on it and preventing the sand from adhering to it as it often does to the wax. In fitting the plate I hammered it closely down around the border of the chamber on one of the metal casts with a small blunt pointed instrument.

Dr. Cleaveland says in his specification, "The device that most nearly approximates to mine is that of Gilbert in which there is a depression in the centre of a plate that like mine covers a portion of the palatine arch, but this when the air is withdrawn does not have an air chamber, the whole of the concavity being filled with the mucous membrane, and

consequently there is less security in the attachment than in mine with the large annular air chamber in it.

The charge of a want of "security" in the attachment of Gilbert's chamber from its "being filled with the mucous membrane" is not verified in my experience with it, and I have never heard it urged by my friends, some of whom have applied it in a large number of cases. I do not advocate the general substitution of chambers instead of clasps, but that they should be resorted to when the condition or organization of the natural organs is such as to render it advisable. But it is always well to prepare the patient for the worst that may occur with it; or at least to be careful that he does not expect too much. No harm results from artificial teeth succeeding better than he supposes possible, while if his expectations are not realized he is never satisfied.

In only one instance have I known the mucous membrane to be drawn into the cavity so as to induce a slight inflammation and soreness—this however not to prevent the constant wearing of the teeth—and of but few days continuance. In all the cases in which I have used it the patients are satisfied, and the pieces with the exception of one, in which the form of the mouth was not the best, are retained in place with a good degree of firmness. February 20th, 1851.—*Dental Register*.

MY LAST AMALGAM FILLING.

THE dentist, after thoroughly qualifying himself for the practice of his profession, for which the dental colleges of our country furnish ample facilities, should avail himself of all the means within his reach to add to his stock of knowledge relative to the treatment of the diseases of the dental organs and the parts intimately connected with them, including those of rare as well as common occurrence. For this purpose he should procure all valuable works on the subject when they are published and be a subscriber to one or more of the four excellent dental journals sustained by the profession in the United States. He could not fail to be remunerated one hundred fold for the trivial expense thus incurred. A sense of duty to his patrons, as well as a most commendable desire to excel in his profession, should prevent him from considering any amount of money expended to acquire such information as ill spent.

The dentist may gain much valuable information by watching the results of his own operations. Although he may not experiment rashly on his patient, he may perform operations in such various modes as are sanctioned by experience and a sound judgment. For example, he may

prepare his gold for filling teeth by folding and cutting it in strips, or by folding and twisting it, or by twisting and cutting it into blocks; and while he may make an excellent filling with his gold prepared by either of these modes, he will, no doubt, after experimenting so as to enable him to form an intelligent opinion as to the merits of each, prefer one of them to the others; or, perhaps, he may learn that he can make the best filling with the blocks in most cases, but that for cavities of a peculiar kind the strips are more desirable. Or in plate work, he may split the rivets of the teeth, or take them out of the plaster and press them down with the punch or hammer previous to soldering; and a few trials will satisfy him respecting the mode most convenient for him to adopt.

The dentist may sometimes find it advantageous to examine the operations of others, profiting by their improvements and avoiding their obvious defects. He will find comparing notes with his professional brethren a valuable means of improvement. For this the meetings of our dental societies afford excellent opportunities.

The dentist should not only be thoroughly acquainted with the best modes of performing the varied and complicated operations entrusted to his care, but he should be able to decide as the *material* proper to be used in different cases. Does palladium answer so well for sustaining artificial teeth as to render it a desideratum for those who are illy able to bear the expense of gold for this purpose? Is it admissable to fill large cavities in the posterior teeth for this class of patients with tin instead of gold? Is it proper to use amalgam for teeth so badly decayed as to render it impossible to fill them with foil? Or is it right to fill teeth with amalgam when it is probable that the use of foil would prove less successful in preserving them? These and many other questions that might be asked, the dentist should be ready to answer intelligently.

Respecting amalgam, we of the Mississippi Valley Association of Dental Surgeons unanimously resolved, some half a dozen years ago, that we would not use it ourselves, nor countenance its use by others. This resolution was passed probably from a desire on the part of every member present to separate ourselves so far as possible, in faith and practice, from a certain class of operators who made a free and most reprehensible use of amalgam.

About eight years ago the writer of this filled twelve or fifteen badly decayed teeth, with their vitality destroyed, with amalgam; always telling the patients that it was not a good article for filling teeth, and that it would answer only a temporary purpose for such teeth as were not worth filling with gold. No bad results followed, but their blackened

surfaces, and the discolored teeth, with a dislike to employ a substance in so bad repute, and used so extensively by empirics, led to its abandonment. The last case was that of a superior molar with the anterior portion including the grinding surface below it gone, presenting a cavity of no very desirable form. Unwilling to use amalgam the tooth was filled with gold, rather to satisfy the patient who had been told by another dentist that it could be done, than from the expectation of its doing any good. So much of the anterior part of the tooth was wanting that it was impossible to give the cavity a shape to retain the foil, and it soon began to come out; when, having endeavored in vain to persuade the patient to have it removed, at his urgent request, as a dernier resort, it was filled with amalgam, with the expectation that it would prove beneficial but a few months. In this the operator was agreeably disappointed, for when he last saw the patient a few months ago, the filling was doing well, and had given the patient no trouble during the seven years it had been worn. If this tooth could have been filled with gold so as to have had it retained, it might not have resisted the action of the food in mastication so well, on account of the extent of surface exposed to it. Was the employment of amalgam in this case morally wrong? Would it be wrong to use it in similar cases, for teeth whose fangs were sufficiently healthy to warrant it, but their crowns too badly decayed to admit of their being filled with foil; or for teeth decayed along the edges of the gums caused by wearing clasps, since in the opinion of some operators of experience it preserves such teeth better than any material that can be employed? ENQUIRER.—*Dental Register*.

APPLICATION OF GUTTA PERCHA TO DENTAL PURPOSES.

The peculiar properties of this remarkable substance, familiar doubtless to all the readers of the Journal, have rendered it extremely useful in the arts, for a variety of purposes. It struck me at once, on first finding that it could so readily be softened, and again almost instantaneously rendered hard, that it might be found very useful in our own profession. I made some experiments with it, and now find it for a great many purposes, so useful in my practice, as to be quite unwilling to dispense with it.

My first attempts with gutta percha were to use it as a substitute for wax, in taking impressions of the mouth. I took hold of it quite sanguinely for this purpose, but was somewhat disappointed in the results

obtained. The fact, that at a certain temperature it becomes quite elastic, renders it necessary that it should be kept in the mouth, in place, till it cools below this point. As this requires some time, even with the aid of ice to hasten the cooling, it renders it less convenient than wax for the purpose. Indeed, since the time I first employed it for taking impressions, some improvements have been introduced, in this city at least, (and which may be described at some future time,) which, for partial cases, renders wax all that can be desired for the purpose. I can easily imagine, too, that if any considerable number of teeth were left in the mouth, and the gutta percha allowed to remain a little too long, it would be found extremely difficult to remove. For partial cases, I have, for these and other reasons, ceased to use it, although, from some communications in the Journal, it seems to have been used with better success by other members of the profession. But, although I did not find it so valuable as I anticipated for the purpose here indicated, for taking impressions for an entire set, I know of nothing which will answer as a substitute.

My method of using it for this purpose is the following: An impression is taken with wax, in the usual way, and a plaster model made from the impression. From this model a gutta percha plate, an eighth of an inch in thickness, is made, precisely in the form intended to be given to the gold plate afterward. This is tried in the mouth, examined closely; and such parts as are not found to fit well are softened, a small portion at a time, and whilst the whole is held firmly with the left hand, the part softened is pressed against the mouth with pounded ice in the end of a napkin, held in the right hand. By going over the plate or frame in this manner, an impression may at last be obtained which will be very accurate. The ice must, of course, be held in contact with the gutta percha till the latter is perfectly hardened.

We have been making cavity plates in this city, differing both from Gilbert's plan and that of Dr. Cleaveland. We have found it to answer well—better, in our hands, than any other cavity plate. The chamber is made by cutting out a piece of the plate formed in the ordinary way, in the form intended to be given to the cavity; and the cavity is made by soldering on an additional piece, as is done in Cleaveland's plate, but without wire, or anything to give additional thickness to the edge of the cavity. I mention this manner of making cavity plates incidentally, at this time, simply to enable me to describe the manner I have fallen upon for taking the impression for making the plate. From a plaster model, made in the usual way, after a wax impression, I get the gutta percha

plate above described, and cut out from it a piece in the form intended to be given to the cavity. I then, after fitting the gutta percha plate in every other part, soften by touching it with a napkin dipped in boiling water, to a little distance from the edge of the cavity all round, and hold it in place with the ice, as above directed till it becomes hard. The advantage of this method is very obvious: it enables you to get with uniform certainty, a perfectly accurate impression of the part upon which, and upon which alone, the adhesion of the plate depends. It is much better than the lead plate recommended for the same purpose, for the parts which fit well cannot spring in the slightest degree whilst you are perfecting the adaptation of the other parts. Since adopting the method described, I have experienced very little trouble in getting atmospheric plates to adhere as firmly as can be desired.

In taking an impression of the lower jaw, it is simply necessary to cut out a piece of sheet gutta percha, as near the size of the mouth in hand as possible, soften and mould it to the part, trimming away, with scissors, the superabundant portions.

In my unsatisfactory trials to substitute gutta percha for wax, in taking impressions, I found it to answer so admirable a purpose as a wax-holder, that I have never, since then, used any other, when I found one of these articles desirable. Every one who has used the ordinary tin frame, knows how impossible it is to get them to answer well in all the variety of cases which present themselves, no matter how large his assortment may be. The method of using gutta percha for this purpose is exceedingly simple and easy. Take about as much gutta percha in quantity as you would use of wax for taking an impression. Soften and use it precisely as you would use wax without a frame to hold it. As soon as you remove it from the mouth, (which, in this case, may be done as soon as you obtain the impression,) enlarge it a little with your fingers, at the part corresponding to the labial portion of the gum, and stretch it upward; then throw it into cold water for a few minutes, and you have a wax-holder perfectly adapted to the case in hand. A very small quantity of wax in this frame, will enable you to get a good impression. The advantages of gutta percha for this purpose are so very obvious, that I have no doubt it has been employed in the same way by other practitioners. If it were useful for no other purpose, I find it so convenient and advantageous for this, that I would not be without it for twenty times its cost.

In using gutta percha, exclusively, for taking impressions in partial cases, I generally proceeded as follows: After preparing the holder as

you would do if wax were used, soften the requisite quantity of gutta percha, by allowing it to remain a few minutes in water kept at the boiling point, and then place it in the holder. Before putting it in the mouth, immerse it for an instant in cold water; this will prevent it from adhering to the teeth and lips, which otherwise it would be apt to do. Put it in the mouth, and press steadily and firmly against the part of which you wish to obtain the impression. Hold it steadily in place for a minute or two, then remove and place it in a glass of ice water, which it will be well to have by you on your stand. Allow it to remain only long enough for the surface to be chilled, for which a minute or two will be sufficient. Then return it to its place in the mouth. This you can readily do if you are cautious, without injury to the impression. In this way you may remove and replace it, till you are satisfied that the contraction is complete. I think it well always to observe this precaution, for, even if the patient could allow it to remain in the mouth sufficiently long for complete contraction to take place, its contraction on the teeth in some cases would render it very difficult to remove, especially where the teeth happened to be larger at the crowns than the necks. The best way that such an accident could be remedied, would be to apply, repeatedly, napkins dipped in boiling water, till the impression is sufficiently softened to be removed. I have said that I had ceased to use gutta percha for this purpose, because I had found wax more convenient; still, I am not satisfied that it might not be used with advantage, and give the result of my experience to those who have not used it at all and may be disposed to try it. After an impression is obtained, it enables you to procure a very beautiful plaster model.

A most excellent cement for arranging teeth on the plate, so that they may be tried in the mouth before soldering, (a practice invariably pursued by me,) may be made of this useful substance. For this purpose, it is combined with resin, in the proportions; three parts resin to one of gutta percha. The resin is first melted with a gentle heat, and the gutta percha dropped into it in small pieces, when it will be found rapidly to dissolve. I have used several other compositions for this purpose, but none with the same degree of satisfaction. It adheres with great tenacity to the plate, when heated and dropped upon it; it is not at all affected by the moisture of the mouth; it can, with a low degree of heat, be so softened as to allow the teeth to be moved with ease; and when this is done, can be chipped away from the plate with as much ease as shellac. But it is readily made, and any one who desires an article of this kind, will soon be able to test its value.

This cement will be found valuable for another purpose. Those who practice the operation of destroying the dental pulp with arsenic, know that it is very desirable that the preparation used should be well secured in the decayed cavity, without being allowed to press upon the exposed pulp; for, when this occurs, severe pain will inevitably ensue. To accomplish this object, a number of valuable methods have been proposed; but generally the cement here described will save both time and trouble, and will perfectly answer the desired purpose. After the preparation is applied over the exposed pulp, place in the cavity, loosely, some pieces of the cement, allowing them to project above its edges; touch it with an instrument slightly heated, and it will quickly soften, and attach itself to the sides of the cavity. This will perfectly fill the cavity, and exclude every particle of moisture so well that the cotton used for applying the preparation will be found, on its removal, exactly in the same condition as when it was put in place.

A little more than a year since, I had the misfortune to sprain the second joint of the thumb of my right hand. It is quite unnecessary to say to the readers of this Journal, that few more serious accidents could well happen to a practising dentist. The sprain was a slight one, but the absolute necessity I was under, at the time, of using my hand almost incessantly, not only prevented it from getting well, but injured the joint so much that I was at last entirely disabled. Every one knows how tedious an affair a sprain is, even when the strained ligaments are allowed absolute rest. I could not afford to lay by a single day, and yet I could not operate at all. In this gloomy extremity, after considerable loss of time, it occurred to me, that if the joint could be supported by any means, which would not interfere with the use of the rest of my hand, I might get on tolerably well at least. I had then used gutta percha, and it occurred to me that this was just what I wanted. I went into my workshop, moulded a piece of gutta percha to the joint, making a band around the thumb below the joint, and extending the other extremity to a point just below the joint at the wrist. Through this tongue, a hole was made for a piece of ribbon, which was tied round the wrist. The whole was covered with silk, which is easily accomplished by warming the surface of the gutta percha, and sticking the silk to it. I put it on, went to work, and have not since, from this cause, been prevented a single hour from operating. This is an accident to which, of course, every one is liable, and I thought an account of this simple mode of relief in such a case, might prove useful to some person.

I have used the substance which has formed the subject of this article

for a great variety of trifling purposes, which are probably scarcely worth describing formally, but which certainly contribute much to the convenience of my work-shop. I am sure it will be found very useful in many ways that are scarcely suspected now, if attention is once seriously turned to it. A.—WASHINGTON, D. C.—*American Journal*.

COMMUNICATION FROM DR. E. PARMLY.

To the Readers of the Dental Recorder.

Truth established is the end of controversy,—and the end and aim of all controversy should be to elicit truth. In a profession like ours, open as it is to every species of charlatanism and imposture, it is of the utmost consequence that the “honest and conscientious” members of it, at least should be well established in professional truth, both in principle and in practice. From the beginning of this controversy I have had no other desire, and no other object in view, than that of sustaining what long experience has proved to be the best mode or system of dental practice. And the digression involving personalities with Dr. Allen, did not originate with me, but was a matter wholly and entirely his own, which I will prove in his paper whenever he will give me the opportunity. (A)

Having by the aid of the highest professional and scientific authority in this country, shown that amalgam penetrates, softens, blackens and destroys, to a certain extent, the solid structure of bone and enamel, as well as the living tissues of the teeth, it only remains now to enquire whether amalgam can in any instance with propriety “be used or recommended,” in cases capable of being treated with gold. In my last communication I charged Dr. Allen, from his own written language, with saying without reserve, and also without qualification—“Dr. Allen thinks and says that amalgam is better than gold.” In reply to this charge, Dr. Allen says, “I do most certainly think and say that amalgam is better than gold in all cases where I either use or recommend it.” If I understand Dr. Allen aright he says the Dental Recorder was, and is designed, and his sole object as editor is to disseminate correct professional information, both as relates to the theory and practice of our professional art; and it is an object above all others for every one engaged in the practice of dental surgery, to know, and to understand thoroughly, what correct practice is, and also what correct professional information is. I trust, therefore, that Dr. Allen will in all fairness and candor, and without personality, having the good of the profession and the public at heart, state clearly and definitely, in what cases he “uses and recommends” amalgam as a substitute for, and as a substance better than gold for stopping teeth, and his professional reasons for so doing. In order to come at his precise meaning as to what the true value of amalgam is in dental practice, I would most respectfully submit a few questions, in the full hope that Dr. Allen will answer them candidly and

in a respectful manner, for the purpose of eliciting and confirming as well as disseminating professional truth, which answers will not be unprofitable or unacceptable to many members of the profession who earnestly desire to be set right, and to be correctly informed upon this long disputed subject—a subject that has caused much division, and much hostile feeling among dentists in Europe, as well as in this country. A fair and critical examination of facts in relation to the real value of amalgam over gold in any and every case, will be particularly acceptable to those of the profession whose prejudices are so deeply rooted from the injury it has done, (and whose professional merit Dr. Allen will not question,) by which examination their prejudices, strong as they are, may be at least modified, if not entirely removed; and dentists will be brought to think and act more alike in this matter. Let the subject be fairly and honorably discussed, not in ridicule or reproach, for the point to be settled is not (to use the comparison of Dr. Allen,) to decide “the difference between tweedledee and tweedledum,” but between the comparative merits of gold and amalgam,—the best and the worst of all the materials in use in the practice of dental surgery. If I cannot sustain with strictest truth the position I have taken, I will retire from the contest and honestly own my defeat. If amalgam is of any value, or if in the most important of all dental operations it is ever called for in dental practice, (and many of the first dentists in the world contend that it is not,) the profession who uses it, and the public that pays for it, have a right to know what that value is, what they use and what they pay for, and to know too in what cases, and what cases only, it should be, for their benefit and not for their injury, “recommended and used,” and to this end I submit the following interrogatories, which I hope will not be considered unfair or out of place, the sole object being the promulgation of practical and professional truth, of equal value and importance to the profession, and to the public supporting that profession. (B)

1st. Does Dr. Allen “think and say” that such front teeth as can be stopped with best gold stoppings, should ever be stopped with amalgam? I have seen many that have been so stopped, and some of them by as prominent a name as has ever been mentioned among the “honest and conscientious” users of amalgam.

2ndly. Should amalgam ever be used in back teeth where gold can be safely and permanently secured? If so, in what cases, and for what reason, should it be used in such cases?

3rdly. Do those who use amalgam for stopping front and back teeth, susceptible of being beautifully and permanently stopped with gold, (saying the former is best,) manifest and exercise, in their practice, as well instructed dentists, the highest degree of professional knowledge, skill, and honesty? Is not one or the other of these three qualities wanting in dentists who do this? or why is it that such men as Dr. Lovejoy, and others of equal standing, remove such amalgam stoppings and substitute gold ones? or for what reason, or to what motive or object, would Dr. Allen ascribe the use of amalgam in the first place by such users, in such cases instead of gold?

4thly. Will Dr. Allen give his reason, for filling roots of teeth where artificial ones are to be engrafted, with amalgam instead of gold? (in leaf or tube) seeing that amalgam almost immediately blackens the roots, and the gums covering them; also causing irritation and disease.

5thly. If amalgam is better for stopping one tooth having a living nerve, why is it not better for all teeth having living nerves in the same condition, and why should it not be universally adopted in dental practice instead of gold, it being at one-fiftieth part the cost, used with one-twentieth part the pain and inconvenience to the patient, and one-tenth part the time commonly employed in stopping with gold?

6th. As Dr. Allen knows well what my objections to amalgam are, will he state whether I have just grounds for such objections? If I have not just grounds will Dr. Allen show the fallacy of such objections? It has been stated in a highly respectable medical journal that "there are certain kinds of amalgam that are innocuous." If there are such kinds, will Dr. Allen inform the profession how, and of what materials, they are compounded, so that the public, and the profession, may have the benefit of them?

7th. Dr. Hoecker, in his able treatise on the teeth, says, "It cannot be denied, that it (gold) is the only proper substance for plugging teeth." I have contended for this opinion of Dr. Hoecker, and for nothing more. If it can in truth be denied, will Dr. Allen make the denial, and show the falsity of Dr. Hoecker's statement?

I cannot perceive the justice of Dr. Allen in charging me with "unfairness and inconsistency" without saying in what they consist, as I have most earnestly desired him to point out for correction, even the slightest unfairness or injustice, for which I will make the most ample acknowledgment. I with much pleasure acknowledge the fairness and good feeling shown in the following proposition from Dr. Allen—"If Dr. Parmly is willing to state in the columns of the same paper, where the insulting and libelous circular was first published, that he did not mean to censure all that use amalgam in their practice when he published it—but that 'there are those who occasionally use amalgam as they affirm where nothing else can be used (successfully) that I have now, and have for years had, a respectful and friendly intercourse with,' (his own language now,)—I will, although the mischief has been done, cheerfully retract all offensive language which I ever wrote about the circular."

I would most gladly do this, if I could do it in justice, truth, and honesty, and to any extent that Dr. Allen, or any other person, might ask. In the first place I never censured any one for using amalgam where gold could not be used, for I have never seen such a case in a tooth worth saving;—but I have condemned the use of amalgam, and now condemn it in all cases that I have seen, where better stoppings can be made with gold, (or even tin or lead,) and have regarded lightly the moral obligation of those who deceive their patients, by affirming in such cases that "amalgam is better than gold." When Dr. Allen has shown (and the interrogatories are to that end,) that amalgam is better, and has particularly described the cases where it is better, and proves why it is

so,—I shall be glad to publish to the world, that all who use it in such cases as described and in no other, are “honest and conscientious” in the use of amalgam. I would, therefore, in all respect to the proposition, and with thanks to Dr. Allen for making it, say, that if he or any amalgamist will produce a single living tooth, free from the objections that I have stated, that has been stopped with amalgam two years, where a better stopping could not have been made, or cannot now be made with gold, I will as an act of justice to amalgam, as well as to the operator, testify to the value of the one, and the skill of the other. I may never have seen the best amalgam stoppings, and never having to this hour seen such a case, I cannot in truth and honesty give such a testimonial, and until I have some proof that amalgam is better or even as good as gold “in certain cases,” I must in all candor say, that I have not the same confidence in the professional integrity or entireness of any one’s practice who uses it, that I have in the practice of those who have proved its prejudicial effects upon the teeth, and have in consequence wholly abandoned and discarded its use. And this I say, without having personally any unfriendly feeling towards any one, or want of respect for those who say they “use amalgam only where gold cannot be used.” (C)

E. PARMLY, No. 1 Bond Street.

June 13, 1851.

Remarks upon the Above.

BY THE EDITOR.

(A) Up to the time that Dr. E. Parmly came out in the newspapers and most impudently pronounced all dentists dishonest who use amalgam when their convictions lead them to believe it to be superior to gold, and stated that he had no confidence in the integrity of those who use it, I entertained for him, in common with the whole dental profession, the highest respect and esteem, both personally and professionally. Sometime afterwards, I expressed the opinion that such language was *insulting and libelous*, and at this moment, in common with nearly the whole profession, I have not changed my opinion; nor shall I until he retracts it in the same paper in which it was published.

(B) Dr. Parmly has not proved by any authority that amalgam will penetrate the living bone of a tooth, either to blacken or soften it. He does not pretend that he has ever experimented with it, or that he knows anything about it, except from teeth that have come under his observation long after they have been filled, and where he knows nothing of the materials which composed the filling, (except that they contained mercury and silver,) nor the manner of preparing or compounding them. I here declare it to be my opinion that a man who knew no more of gold as a substance for filling teeth, than Dr. Parmly does of amalgam, would

be incapable of giving an intelligent opinion of its merits and demerits. I did say in a private note, written hastily, and to avoid all superfluous words, "Dr. Allen thinks and says, amalgam is better than gold," not supposing for a moment that Dr. Parmly would publish it to convey the impression that I meant to be understood as a substance to be generally used for filling teeth. I leave the readers of the Recorder to judge of his fairness in so doing, or his right to publish it at all without my consent. I have never been adverse to, but always in favor of discussing fairly and fully the subject of the use of amalgam for filling teeth, and have as fully and freely as I knew how given my opinion upon it in the Recorder. I have no objections to answering candidly all the questions now put to me by Dr. Parmly, although most of them have already been answered in the Recorder, if he will in turn answer an equal number which I will put to him, and thus "let the subject be fairly and honorably discussed" in his own way; but if he pronounces my opinions or practice dishonest or devoid of "integrity" (implying a want of honesty)—I shall pronounce his *insulting and libelous*; for I have just the same right to express my opinion of his language, as he has to judge my motives for practising as I think best. If this method of discussing the subject meets with Dr. Parmly's views, I will answer his questions in the next number of the Recorder and propound to him an equal number.

(C) I have endeavored to point out the "unfairness and inconsistency" of Dr. Parmly through this whole controversy. If my readers have not been able to see it they are at liberty to set me down as mistaken, and say that Dr. Parmly is both fair and consistent in accusing me, of breaking my promise because we did not understand it alike—of treating him with unfairness because I would not publish an attack upon the Recorder and myself, from four to six pages long, nominally, in reply to a letter from Dr. Burdell, of one page,—of publishing Burdell's letter "with *alterations*," and persisting in it after my denial, backed by Burdell's assertion to the same effect, that I made but *one* alteration. After saying repeatedly, in substance, that amalgam "should never be used or countenanced *in any case*," he says "I have never said that it might not be used in some very rare cases with comparative benefit"—he also says that he regards the Society of Dental Surgeons of the State of New York as an Amalgam Society, when amalgam has never been discussed at all by it, and says "I have believed from the Recorder that the society both *approved* and *recommended* it (amalgam) very largely."

These are a few of the points that have been discussed between us, and if they show fairness and consistency give me unfairness and inconsistency to live by and to die by. Dr. Parmly denies that he has classed all together who use amalgam, and calls upon me to prove my assertion that such men as Cartwright, Nasmyth, Tomes and Brewster are, in the Parmlyan sense, amalgamists. In reply I ask him to state in the New York Tribune, that he did not mean to censure all who use amalgam in their practice (including the above named gentlemen) when he published his insulting and libelous circular in that paper, and my readers will now see how he crawls out of it. If he did not mean to censure all who ever use it; in the name of justice and common sense why not say so?

I have not asked Dr. Parmly to testify to the value of amalgam or the skill of those who use it, nor to give any "testimonial" whatever; there are hundreds who use it whenever they think best who rely entirely upon their own work for their reputation, and would not thank him for any testimonial he could give them. All they ask of him is to mind his own business and not insult or defame them in the public prints.

GILBERT'S PATENT CAVITY PLATES.

MR. EDITOR:—I wish to call the attention of your readers to Mr. Gilbert's method of constructing plates for sustaining artificial teeth on the atmospheric pressure principle. The following extract from the report of the Commissioner of Patents, briefly describes the plan of Mr. Gilbert, and, although he has received his patent-right, there is scarcely a dentist in the country who is not in his daily practice violating it, and laying himself liable to a prosecution for damages. I know that the Dental Recorder is opposed to all patents for dental purposes; but, is it fair or reasonable to expect that men will devote their time and money, in experimenting for the good of others, when they are to receive no recompense for it? It seems to me that this is unreasonable and absurd, but, *nous verrons*.

My object in sending you this extract is to furnish another hint to those who make use of this plan, (besides the hint that they ought to remunerate Mr. Gilbert for the use of his time and brains) to prevent them from failing, and afterwards discouraging others from using it, thereby depriving the inventor of the honor as well as the emoluments of his labor and ingenuity.

When constructing the chamber it is important that the plate should be struck so as to form a sharp or square corner, where it leaves the gum to form the sides of the cavity. Some dentists when placing the

wax or plaster upon the cast, to strike the chamber over, before moulding, pare it down to a thin edge, so that the plate will gradually rise from the gum or roof of the mouth, without any distinct edge to the cavity. Although a plate constructed upon this plan may be pleasanter to wear at first, it will not be found to adhere with half the firmness that one does constructed the other way. I am unable to give any satisfactory reason for this difference, but that it really exists, I have no doubt, for I have in several instances constructed for the same mouth plates upon both plans, and invariably found that the one with the sharp edge adhered with much greater firmness than the other.

From the Patent Office Report for 1848. Executive Document, No. 59 : page 25. Report to the commissioner, from CHAS. G. PAGE, examiner: under the head, "SURGERY."

"Setting artificial teeth.—Attempts have been hitherto made to cause the plates, holding the sets of teeth, to adhere to the mouth by atmospheric pressure, and several patents have been formerly granted for inventions of this class. All these plans have had their imperfections; and, although in some the plates once fixed would adhere well, yet it was not easy to remove them when occasion required, which, with most persons, is at least once in twenty-four hours. A mode, however, has been patented during the past year, which seems to accomplish all that is desirable in this particular. By means of a cavity properly shaped and located in the plate, the tongue is applied to produce the exhaustion and fastens the plate immediately, with great firmness, and, by a movement of the tip of the tongue very easily acquired, the plate is readily detached."

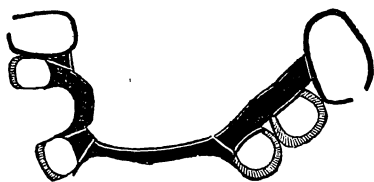
Extract from Levi Gilbert's specification. 5447.

"But what I do claim as my invention, and desire to secure by letters patent, is the application of atmospheric pressure to gold or other plates used in dentistry; the plate being *single*, of a *smooth* surface, and a chamber or cavity sunk in the *central* part of the upper surface of the plate, in which a vacuum can be readily formed by the use of the tongue as an air pump, constructed and operating substantially as herein described."

CREOSOTE A PREVENTIVE OF SEA-SICKNESS.

A medical student writes to the editor of the London Lancet, that while crossing the channel recently he was much annoyed by sea-sickness. On his return, just as he was beginning to experience the same unpleasant sensations, he observed a lady taking some creosote on a lump of sugar. He applied to her for some, and took five drops between two lozenges, and from that time ceased to feel anything of his sea-sickness during the whole voyage. The medicine produced the same effect upon the lady and her brother.

AN EASY METHOD OF INSERTING TEETH ON GOLD, WITHOUT METALIC CASTINGS.



The above cut illustrates a piece of work made, in Paris, without the aid of metal casts. The frame is made of half round wire, and fitted to the plaster cast with a common pair of round pliers. When the angle in the casting is too sharp to bend the wire round, it is cut and jointed with a file, as represented by the white lines across the frame, then bent again, and so on from one side of the mouth to the other. The clasps are then fitted and soldered with the joints on the plaster model. Teeth are selected with broad bases to rest upon the gum and ground to fit the cast and mouth; they are then to be backed, placed in their proper position in the mouth and afterwards soldered in the usual manner.

With care and skill a very beautiful piece may be made in this way much lighter and covering less of the gum than the plates which are generally used, while the frame, if gold alloyed with platina is used, and of a proper size, will be stiffer than the ordinary plates. Of course the gum should be well shrunk, firm, and healthy. The style of this work resembles the "wire work" of Hudson and other dentists of Philadelphia previous to the introduction of mineral teeth.

A lady who had traveled in Europe and worn a piece made in this way, liked it so much better than the plate she had previously had, that she determined to have no other kind. When wanting a new piece she called on several dentists in this city who refused to insert her teeth unless, as she said, they could cover half her mouth with gold plate. It is unnecessary to say that she was very grateful when she found one who did the work to please her.

NOTICE.—Dr. Gardette's proposition to establish a lectureship on *Dental Surgery* in medical colleges, has been received and will be noticed in our next.

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No. X.

FILLING TEETH.

BY JAMES TAYLOR, M. D., D. D. S.

(Concluded.)

The present number concludes the interesting and instructive article upon filling teeth, by Prof. Taylor. In this address Dr. Taylor has followed the plan laid down in his annual course of lectures in the Ohio College of Dental Surgery,—though probably much less minute than in his lectures, where the operations are not only discussed, but also demonstrated, in presence of the class. If those who are about commencing the practice of filling teeth cannot avail themselves of the privilege of attending a course of these lectures, they cannot, any where in all the published volumes that we have met with, find so thorough and full a description of the manner of treating all the cavities which are usually met with, as in this address. Most of the authors who have written on Dental Surgery, have failed to describe the operation of filling (the most important which the dentist is called upon to perform), with that precision and minuteness which it demands. Here, however, there is little wanting; the man who has head enough to comprehend Dr. Taylor's descriptions, cannot fail, with care and practice, to make a good filler. Again we commend it to the careful study of all young practitioners.—*Ed. Recorder.*

“The fourth order of cavities in my classification are the palatal, and occurs less frequently than either of the three already described. They will more frequently be found on the anterior and posterior molars above, and on such of these teeth as have well and deep marked sutures, running across from their labial to palatal face; or, as is sometimes the case, the suture dividing only the palatal face, and then losing itself in the posterior depression on the grinding surface of these teeth. On the palatal face, however, of the lateral incisors a depression is often met with, and then we may expect a decay presenting cavities of this order. The front incisors and canine occasionally present this condition of decay. The bicuspid scarce ever. In the teeth of the inferior maxillary they are scarce ever found. I do not now recollect of ever having met with over a dozen cavities of this classification in these teeth.

“We have at times a recession of the gums from the necks of the teeth, and when this is accompanied by a vitiated condition of the secretions of the mouth, we will sometimes find cavities of this order, running across

the palatal neck of the teeth. This condition of decay, and that induced by clasps for artificial teeth present the most difficult of this kind to fill. These cavities, so long as they are confined to the crown of the teeth, and do not dip under the edge of the gum, are more easily managed than any other except the central, and as the operation in these is much the same it will require but little explanation. When small and situated on the line of the sutures or the depression in the incisors and canine as alluded to, they are readily prepared for the filling by the use of the burr drills and excavators. When in the sutures, however, they will often run along these, forming a long narrow cavity not very manageable with the drill. These cavities, when of considerable depth, should be of the same size at the opening of the cavity as within, and in introducing the gold, the first block or fold of gold should be placed in that part of the cavity nearest the gum. After the gold has been thoroughly compacted and made flush with the border of the cavity, the filling may be filed level with the enamel and depressed on a line with the suture, carrying out to some extent, at least, the natural form of the teeth.

"The palatal cavities found on the neck of the teeth present more difficulties in the operation of filling. The posterior and anterior part of these cavities will generally be found very shallow, and the more they circle the necks of the teeth the more difficulty will be experienced in the operation; sometimes requiring very much the same treatment as that described for the labial cavities on the posterior molars in the inferior maxillary. It will not do in this condition of decay to make the floor of the cavity level; for if this be the case, and the decay is on a bicuspid, or passes over the inner root of a molar, the nerve may easily be exposed. A proper knowledge of the location of the nerve will always guide us in the formation of these cavities, and indeed in all deep cavities must to a certain extent control the operation.

"One difficulty almost always met with deserves a passing notice. It is, however, more a condition of things than really a part of the operation, yet such a condition as very much to increase the difficulty of forming the cavity and filling the teeth. I allude to the extreme tenderness of tooth bone most usually met with in this condition of decay, and this is especially the case when it is the result of injury from clasps. It is evident that friction cannot alone be the cause of this difficulty. I have sometimes thought it had but little to do in the matter. We have here two characteristics of decay; one, in which the cartilaginous portion of the tooth appears to have been removed, leaving the dentine whiter than natural, and which crumbles readily under the instrument. The other is the loss of the earthy portion, leaving the cartilaginous portion soft and spongy. If now galvanic action is at work, and incites to decay or decomposition of the original elements of the tooth; why, in one month produce one state of things and in another the reverse? May not the galvanic action be changed by the condition of the fluids of the mouth? We know that one acid acts upon the lime of the tooth, and another on the cartilage, and I believe it is an admitted fact that in galvanic action heat is generated, and acids we know when heated act more powerfully than when cool. The investigation of this subject is

certainly worthy the attention of the profession ; and for this reason, that a dentifrice or wash which would be a proper and an efficient neutralizer of one acid is not for another ; in one case it may be of decided benefit, and in the other of no use at all. Washes and dentifrices should never be prescribed for the gums and teeth without a careful investigation of the nature of the disease with which the gums or teeth may be affected. This tenderness of the teeth of which I have been speaking is often annoying to the operator and occasions much pain to the patient, and when met with I generally depend on the excavator for the preparation of the cavity. If there is no danger of exposing the nerve, I gradually work a very sharp excavator through the decay to the healthy bone, and with a firm and steady hand pass the instrument around under the carious portion. After this, I have but little further trouble in removing the decay and forming the cavity, I should want the class of cavities now under consideration slightly enlarged within, merely enough so, that the gold first introduced (commencing at the posterior part of the cavity) may not be displaced by the last fold or blocks introduced. It should be remembered that often the outer circle of these cavities is much or at least some longer than the inner, and the pressure made to introduce the last portion of the plug would be rather calculated to displace the first. The form of cavity, rather dove-tail, will, when the first blocks which have been introduced and in a measure compressed and made solid, prevent any displacement of the gold. In this condition of cavity I use almost entirely my gold rolled into blocks, made sufficiently large, so that each block as introduced shall fill up the cavity in its breadth, so that at the insertion of each block it is forced back and down to its proper place and thus consolidated as I advance in the filling. The anterior and posterior wall of these cavities should be sufficiently deep, even if cut into the healthy bone as to afford a hold for the first and last blocks inserted. After proper compression and consolidation of the plug it should be filed smooth and rounded to the shape of the tooth, when it is ready for polishing.

“ The compound cavities are generally of the following kind ; first, the approximal and central uniting ; second, the central and labial, and sometimes the approximal and palatal. Those occurring most frequently are the approximal and central, and these in the molars and bicuspid, superior and inferior. We have here a form of cavity requiring great care and skill to properly fill—that portion of the bone and enamel which separates the two cavities, and which forms the upper border of the approximal has been broken away, destroying, as a matter of course, the wall which forms a part of either cavity and which is so essential for the proper retention of the plug. We have in connection with this, an extensive decay—both cavities may indeed have been large before their union. As an illustration of these cavities and the manner of filling, we will take the anterior molar of the inferior maxillary, decayed on the posterior approximal surface, and also in the centre. The approximat cavity is large and has extended itself to the central. The first thing here to be done is the separation of the molars, and if the decay is as extensive as is generally found, the posterior approximal

surface of the decayed molar should be cut and filed away, so that the posterior prominences shall be beveled off, forming a beveled but somewhat rounded surface from a line of union of these two cavities down to the neck of the tooth. This condition of things will at times be somewhat controlled by the depth and condition of decay.

"In the formation of the cavity, care should be taken that the border circling with the gum should be well formed, and at least not diminish the size of the cavity within. But the greatest care is requisite in the formation of these cavities, at that point where the two have united. The cavity is generally most shallow at this part, and unless it fully maintains its size as it passes in, the plug will not be retained; but if the cavity at this point slightly enlarges within, no difficulty need be expected in the securing of a good and durable plug. The central portion of these cavities I form much as I should a central cavity, only changing when it unites with the approximal to suit the altered condition of the parts made necessary by the union of the two.

"In the introduction of the gold I commence in the approximal part of the cavity, but I should first remark that I adjust my napkin and speculum just as if I was about to plug a central cavity. In the preparation of my gold, I take care that the first block is of sufficient size to extend from the labial to the palatal wall of the cavity, and compress this to its place, being careful to fill up that portion of the cavity nearest the gum first, so that the remaining blocks shall wedge in on top of this until the cavity is completely filled to a level with the floor or bottom of the central part. I then have a few blocks long enough to extend into this, and thus fill in part the central portion in this way, leaving sufficient depth of cavity, however, to receive a central plug, which is inserted with blocks and folds of gold in the usual manner, finishing, however, at that part where the approximal and central unite, by securely wedging in a few folds of gold under the beveled wall which is here made for this purpose. The compressing instruments are now applied until the gold is completely consolidated, and the gold filed level with the margin of the cavity, using such instruments as are necessary for both the approximal and central fillings.

"The plugging forceps first used in this operation are so bent that the point turns back towards the handle of the instrument, and the points of the forcep blades flattened just the reverse of those used in the central cavities; these latter, are bent for the lower molars at near right angles.

"We have here an approximal cavity, the upper margin of which has been destroyed, yet the plug secured in part by the central filling. All the cavities of this class found in the molars and bicuspidis can generally be treated in the manner described.

"The central and labial sometimes unite and are found most frequently in the molar teeth. If the central is large and deep and the labial small, and situated about midway on the crown of the tooth, the bottom of the central cavity will be below the lower wall of the labial cavity and the union is complete up to the grinding surface of the tooth. The foil here should be introduced first into the central cavity, and this

should be done, compressing one or more blocks laid in on their sides until the cavity is filled up to a level with the labial decay. Then introduce blocks on end in the posterior part of the central cavity, until it is filled up to a line with the labial; then fill up the labial letting the blocks extend through the central cavity. When this is done finish the anterior portion of the central plug; before compressing, force into the centre of the central plug, which is formed by the blocks which make the labial plug, a sharp pointed plugger—make an opening as large as possible by forcing the gold against the anterior, posterior, and palatal walls; then fill this with one or more small blocks, or a few folds of gold, compress the plug and file the labial filling level with the rounded face of the tooth, and trim the central as in other cases. Should the labial cavity be large and the central small, fill first the labial, and when filled up to the floor of the central, use blocks of gold which will pass into this and rest against its palatal wall, and when the labial cavity has been well filled, should the central be incomplete, open in the centre as before and fill solid.

“In the molar teeth a central and palatal cavity may unite, when the same treatment can be adopted with the same beneficial results; or, if a portion of the palatal wall of a central cavity should give way, the same treatment is admissible, and affords, as I think, the best possible chance for a perfect filling. One of my inferior posterior molars a few years since gave way in this manner, and after one or two ineffectual efforts to have it filled in the ordinary way, my brother, Dr. E. Taylor, plugged it in the manner which I have described, and nothing could be more satisfactory. The ends of the blocks, in part, form the palatal face of the tooth, and were filed and trimmed to suit its shape.

“One other condition of compound cavity is worthy of especial notice. This is palatal and approximal uniting in the lateral incisors. The palatal cavity is here generally near the gum, and is preceded by a natural indentation in the palatal face of the tooth—a burr head drill is generally used for the preparation of these cavities for the plug, and when the approximal unite with this, it is generally near the neck of the tooth, or at what might be called the base of the approximal cavity. I first prepare my palatal cavity, then adapt the approximal to suit, not enlarging any more than possible the opening which unites them. I then fill the palatal; then commence the approximal plug at the base of the cavity: next the palatal filling, and finish at the point under the cutting edge of the tooth. When the fillings are compressed, trim and file to suit the natural form of the tooth.

“Other specific cavities might be alluded to, yet I have already occupied, perhaps, too much time and space on this subject. True, there is none other so important to the profession, and, none having so few specific directions, by which the young operator may be guided in the performance of this difficult operation. Much might be said in relation to the position of the patient's head, and also the position of the operator, which I have not alluded to. Perhaps no two operators will always take the same position in the use of even the same instrument. That

which is most important I have tried to make as plain and practicable as possible.

"I have reserved till now the finishing part of the operation, which is the polishing of the plug. This has been done because about the same process is needed in all cases. The surface of the small and large fillings should alike present a fine and polished appearance. This is not only requisite for the general appearance of the plugs, but also that they may be smooth to the tongue and not be injuriously acted upon by use of tooth pick, brush, &c.

"For the finishing of many small plugs, the burnisher is almost all that is necessary, using when necessary the Arkansas stone or the Scotch stone to grind off any scratches that may have been left by the file and scraping instruments, and which do not yield readily to the burnishing instrument.

"The file I regard as an indispensable instrument in the preparation of a plug for burnishing. These I have alluded to already, and they should be used to file off all the protruding gold and give the plug that external form which may be desirable, and unless they leave the surface of the filling to some extent smooth, I should regard the gold but as poorly introduced.

"There should be no ragged projecting pieces of gold around the border of the filling; to avoid this a small and somewhat blunt pointed instrument should be passed entirely around the outer border of the filling; compression made all round, and the rough edges of the plug trimmed away from the margin of the cavity.

"The last file used on the surface of a filling should be of the finest quality of gold files, and if they have been somewhat worn all the better.

"The smoother the plug is left by the file, the less labor will it require to finish the operation. After the file has been used and the plug trimmed, so that the antagonizing tooth does not strike first on the gold, I take a suitable burnisher and make hard compression over the entire surface of the plug; then apply the Scotch stone, (such as jeweler's use,) and grind out all the scratches left on the gold. The Arkansas stone I have found to clog up, and it is not expeditious enough. When the plug is inaccessible to the use of these stones which are made of different shapes to suit almost all conditions, I take that which has been pulverized, and use this with a stick of wood, or oftener with a rounded or flattened burnisher; when this operation has been carried to sufficient extent, wipe off the plug, and with a little rouge or castile soap and burnisher, finish. In large fillings I have found it advantageous, and this part of the operation much expedited by using rougher stones, those which cut faster, or for the approximal fillings, emory and glue on a tape which is passed rapidly between the teeth, and if the emory is fine it leaves a smooth surface, which is soon finished by the burnisher. Dr. Parmley's "argillaceous tooth polishers" I have often used, and find them to answer a good purpose in preparing the gold for a finer material. The plug should be left perfectly smooth, free of all scratches and indentations, and reflect like a mirror the instrument

as it passes over it. All should try and attain this object; true, they may arrive at it in different ways, but I think all will admit that the better the gold is introduced and consolidated, the easier will this be accomplished.

“The subject of destroying the nerve and filling thereafter, also capping and filling will be treated in a separate article. I am aware that there is much in the manner of preparing the gold and its introduction, which is new, at least not so far as I know, practised by the profession. I had never seen a pair of plugging forceps or plyers until I had them made. It is not expected that those accustomed to fill teeth in a different manner will (if even they see proper to try the use of the forceps with the foil rolled into blocks) succeed to their satisfaction the first effort—practice makes perfect in this as well as in almost everything. ‘Try all and adopt that which is best.’”

For the Dental News Letter.

ON THE PRINCIPLES TO BE CONSIDERED IN THE PRESCRIPTION AND COMPOUNDING, AND THE CONSTITUTION OF POWDERS AND WASHES FOR THE TEETH AND MOUTH.

BY GEO. J. ZIEGLER, M. D.

MESSRS. EDITORS:—In glancing over the pages of the April number of a medical journal, published in one of our large Northern cities, I was much surprised to see a notice, purporting to be editorial, commendatory of a dentifrice and wash for the teeth and gums, the *formulæ* of which are reserved as a *secret*, prepared and for sale by a practical dentist of that city. Now, this savors very much of quackery, and, from the editor of a medical journal, (I do not specify, because my design is not personality, but, exclusively, opposition to a pernicious principle,) we should expect something better, as the great object of its institution and publication is the diffusion of knowledge upon all subjects directly or indirectly connected with the *ars medicina*, and, of course, anything promising in the least for the mitigation or removal of the inconveniences and ills of life, should be given freely for the benefit of the many, and not withheld for the aggrandisement of a few, it being altogether contrary to the great and liberal principles of the medical profession to use, support, or contribute in any way, to the extension of secret remedies.

The treatment of the teeth and tissues of the mouth, by means of dentifrices and washes, is of the highest importance, not only for the preservation of the health and lives of individuals, but also of communities, and through them of future generations; for if persons in early life lose their teeth, the diminution of health will generally be proportion-

ate, and, in consequence, the organization of the progeny of such persons will not be as perfect as it would have otherwise been ; while the duration of the lives of both the parent and progeny will be considerably shortened. Statistics have, however, shown that life may be, and is prolonged, to a certain extent, by the use of the artificial substitutes, so admirably improved and adapted for the purpose of mastication, &c., at the present time.

The *objects* which the employment of powders and washes is desired to attain may be included in the two great classes of, first, the immediate or more direct ; and second, the remote or ultimate. Under the former will be comprised first, the prevention and removal, when deposited, of the salivary calculus, (shown to be composed of animal and vegetable parasites and their debris ;) second, the particles of food, and the products of their decomposition, from the cavities and interstices of the teeth and mouth ; and third, the correction of the injurious tendency and action of the vitiated and abnormal saliva. This latter, when healthy, being generally alkaline in its reaction, although by some observers it is stated to be alkaline at one, and slightly acid at another period of the day, its salts consisting principally of the phosphates of lime and soda, the chlorides of sodium and potassium, and the lactates of soda and potassa, whilst in the diseased or modified condition its constitution assumes a highly acid character ; hence its reaction with, and affinity for the calcareous matter of the teeth, causes a decomposition and diseased state of those beautiful, useful and essential organs, of an insidious, but certain, and sometimes exceedingly rapid character.

The other great objects of importance, or the remote, are the preservation, or cure when diseased, of the teeth and tissues of the mouth, thus through them promoting the still more ultimate ones, of the functions of mastication, insalivation, digestion, and all those processes dependent upon this necessary preparatory condition of the food, and finally so essential to the existence and well being of the individual.

The *means* by which these desirable objects may be obtained are of two kinds, viz., first, by remedies addressed to the whole system, or general treatment ; and, second, to the part affected, or local treatment. In numerous instances, however, the institution of both of these courses is required. Our intention at present is to discuss the latter only, or rather a branch of it.

The numerous powders and washes so highly lauded and recommended, for the preservation and cure of the teeth and mouth, may be classed, according to their properties and effects, under the three principal

divisions of, first, the *physical*; second, the *vital*, or those acting through the vital influence induced; and third, the *chemical*.

In the first, *physical*, are included all those powders and washes, which act only mechanically, and by simple separation of the particles, or by dilution, thus breaking down and removing the matter with which they come in contact. One of the most prominent of the former of these is the powdered pumice stone, consisting principally as it does, of silica, must necessarily, from its hardness, be destructive to those substances of less hardness than itself, which fact is exhibited, when employed as a dentifrice, by the destructive disintegrating influence upon the materials of the teeth. There are, however, some of this class, nearer in composition and hardness to the components of the teeth, which, if properly used, are undoubtedly very beneficial, examples of which will be mentioned subsequently. Of the diluents, the principal and most important is, obviously, water.

In the second division, viz., the *vital*, or those acting medicinally through the induced vital power, a prominent and very old domestic one is the tincture of myrrh. On an examination of its properties it will be found that it is a stimulant, tonic and astringent, possessing no other depurative properties than those belonging to such agents, hence can act only on the tissues of the gums and cavity of the mouth, which it undoubtedly does, in common with all similar washes and powders, they being composed of analogous substances, having the same general properties; and in this way they can be of service only by promoting a healthy condition of the tissues to which they are applied, assisted by the mere physical action of the fluid, and the brush, or other article used in cleansing the mouth.

The third division, or the *chemical*, will comprise all those agents acting chemically, the acids and alkalies being the principal. In almost all of the dentifrices, and many of the washes, so extensively advertised and lauded at the present time, there is a portion of acid, which, although it acts very effectually in temporarily cleansing and beautifying the teeth, by whitening them, does so at a fearful cost, by destroying the integrity of their structure; these agents having generally a great affinity for lime, which it is well known, is the basis of the osseous part, and of course the teeth inclusive, of the animal organism; hence, in consequence of this great attraction for that substance, they seize upon and unite with it, forming a salt of the particular acid employed; thus gradually the calcareous matter is broken down and removed, producing that crumbling condition often resulting from an highly acid state of the sali-

vary fluid, and so well known to practitioners, and leaving, frequently, the animal tissue greatly diseased, and so exceedingly sensitive, that the unfortunate possessor of such teeth suffers almost as much, though not so severely, as if the dental pulp was exposed; and requiring for its successful removal, preparatory to filling, the utmost skill and patience of the operator. Consequently the acids are entirely objectionable, for there does not appear to be a single case in which they would be so strongly indicated as to justify the risk of the injury certainly resulting from their employment.

The alkalis, on the other hand, seem to be peculiarly appropriate in the majority of, if not in all, cases, for, from the constant changes in the fluids of the mouth, arising from the local and general modifying influences upon the functions of special organs, as well as of the system generally, particularly in this country, the secretions are consequently continually varying in their character, and none probably more so than that of the saliva, it being in health, as before stated, usually alkaline, but when modified becoming most generally of an acid reaction, the intensity of this being commonly in accordance with the modification of the salivary fluid, easily tested and exhibited by test paper; hence it is evident, that by the use of the alkalis, thus neutralizing the acid of the saliva and substances decomposing in the mouth, this destructive process of decomposition and disintegration of the teeth will be prevented or retarded, if not completely arrested.

It would appear, however, from an investigation of the properties of these various classes of remedies, and their relation to the conditions in question, that none of them separately fulfil all the indications which are required and desired in their employment.

Now, in the successful prevention and treatment of disease, there are several indispensable preliminary points to be ascertained and understood, and first, what are the objects to be attained; second, the mode and means of accomplishing them; third, the true indications requiring to be answered; and fourth, the fulfilment of those indications by proper remedial agents, possessing suitable properties, or by those measures included under the term of hygiene.

Having glanced at the former of these, it will now be proper to consider the latter, viz., the true indications to be answered, and the fulfilment of them; and in the subject under consideration there seems to be several, each one of which is of the greatest importance, and frequently inseparable. The first is, the removal of those substances which accumulate around the teeth, and in the mouth, by a mechanical action, be-

ing in many cases all that is required ; this is furnished by the frictional and dilutive action of brushes, water, &c.; secondly, a vital action on the tissues of the gums and mouth, thus preserving, or regaining, when lost, their tonicity, which may be secured by means of stimulants, alteratives, and depuratives, such as astringents, very valuable ones of which are galls, or a purer astringent, tannin, alum, &c.; tonics, as cinchona ; and alteratives or depuratives, as chloride of soda, muriate of ammonia, &c. ; the third, a chemical action on the fluids of, and the contaminating principles from the decomposition of substances in the mouth, to combat and modify, if not to completely overcome, their injurious tendencies and actions ; and, as the acids are these destructive agents, the resort to those remedies which would neutralize, and thus supply them with the same or a similar article to that which they would otherwise derive from the teeth, would be indicated ; this, it is obvious, could be furnished by the alkalies, the best for the purpose being soda and potassa. These, in addition to their neutralization of the acids of the fluids of the mouth, seem to exert a destructive and decomposing power over the parasitic deposits about the teeth. Although, according to the experiments of Dr. Bowditch, "soda, ammonia, and various other popular detergents, did not affect their vitality in the least," yet "the application of soap appeared to destroy them instantly." Now, the hard soaps principally have for their base soda, and as the "purest white soap" is recommended, it necessarily follows that, to be so, it should be divested of all impurities ; hence, it must consist almost exclusively of the base soda and the fatty and oleaginous matters, or rather their acids in union. The vegetable oils being generally employed in the manufacture of the finest soaps, therefore they are a purer compound of oleic acid and soda, or an oleate of soda, though they are mostly associated in varying proportions with the other fat acids. Consequently it is presumed, from the known proportions of fats and oils, and their common acids, stearic, margaric and oleic, that they will not destroy or remove these salivary deposits ; hence, the beneficial influence of soap would appear to depend upon the base soda, or probably the salt resulting from the combination of the acids with the alkali : these bodies frequently possessing properties entirely different from their constituents, which, by their action upon and reaction with the components of the calculus, (it being principally composed of phosphate of lime,) causes a dissolution and decomposition of that substance with the consequent formation of the respective salts of phosphate of soda, and oleo-margarate or stearate of lime, according to the proportions of these several acids.

It would seem, from the fact of the alkalies alone being incompetent to the dissolution and removal of these accumulations, that it requires for their action the interposition or assistance of some higher attractive or decomposing power than they separately possess ; in other words, that single elective affinity is not adequate to the induction of the reaction of these agents, but for the successful decomposition requiring the superior influence of double elective affinity, similar to many other conditions necessary for chemical changes. Hence, instead of the simple alkalies, the employment of their salts would seem to be most appropriate ; thus, the carbonate of soda, or potassa, soap, &c. ; those containing the more active acids being obviously contraindicated.

Taking these views into consideration, therefore, it becomes necessary, in accordance with the indications presented, and their fulfilment, to resort to those substances possessing the peculiar properties required, and combining them in such proportions as would be most appropriate to the special condition under treatment, although for general use the components and proportions may be so arranged as to be well adapted to the majority of cases.

In accordance with the above described principles, I have always endeavored to suit my remedies to the particular case presented, modifying the treatment according to the circumstances, and with a success with which I have been much gratified. But for general application I have found the combination of the several agents, as expressed in the subjoined formulæ, very useful. That for a dentifrice which I ordinarily recommend and precribe, and to the beneficial effects of which I can testify, from an almost daily personal use for years, is the following, viz :—

R. Testa Præp.,	℥viij.
Gallæ Pulv.,	℥ij.
Sodæ Carb. Exsicc,	℥ij.
Cochineal,	℥ss.
Alum,	℥j.
Ol. Rosæ,	gtt. iij.

M. et. ft. pulv. for dentifrice.

The teeth should be cleansed with this powder at least once a day, and that period should be at the close of it, just before retiring for the night, as it is so much the custom, among young people, particularly in the evening, to indulge in those articles, such as cakes, ice cream, sweetmeats, fruit, &c., which have a tendency to a rapid change, being converted into those agents so destructive to the teeth. By removing, however, immediately before retiring, all those particles of the various

materials of the food which have collected in the cavities and interstices of the teeth, this injurious action will be prevented, whilst otherwise they will remain and undergo those changes peculiar to them, and produce, during the period of repose of the system, much more injury than in those hours when the system is active and the secretions more abundant, thus, from the inconvenience and by dilution, exciting and facilitating an action for their removal.

The following is the formula for a Wash which I frequently use, and with great advantage, in those cases of chronic, relaxed, and depraved condition of the gums often accompanied with ulceration.

R. Liq. Sodæ Chlorinat.,	f℥ss.
Tinct. Gallæ,	fʒiiss.
Ammoniaë Muriat.,	℥ij.
Mel. Opt.,	f℥ss.
Aquæ Rosæ,	fʒiiss.
Misce.	

This should be used two or three times a day, according to the severity of the disease; and if there should be much irritation of the tissues of the mouth, a sufficient quantity of any anodyne, not incompatible, might be added, such as the tincture of aconite, or muriate of morphia, although this latter would be apt to react with the astringent. In place of the tincture, an infusion of galls, of oak bark, or of tannin, might be substituted where they were more convenient; the two former being modifications of the latter vegetable astringent principle.

Very frequently powders or lotions, having for their astringent principle alum, or acetate of lead, will be found of great service; the former particularly, in those conditions termed aphthous. The following I have never known to fail, in cases of local apthæ of a comparatively mild character, and not dependent upon any great derangement of the general system, as it very frequently does, which, of course, requires, in addition to the local, the institution of general treatment.

R. Alum Exsicc.,	℥ss.
Sodæ Borat.,	ʒj.
Saccha. Alb.,	q. s.
M. ft. pulv.	

This may be sprinkled occasionally on the ulcerations, and by the dissolving agency of the saliva, and the action of the tongue, cheeks, &c., it will be diffused throughout the mouth; and in cases of children it will be found very appropriate, as the sugar gives it an agreeable taste, and sufficient should be used for that purpose, thus rather causing it to be desired than rejected.

The solution of Acetate of Lead is more appropriate in those cases of swelling and ulceration resulting from the inordinate effects of mercurial salivation.

I have thus given a few examples of those remedies which are undoubtedly efficacious in numerous instances, but there are others which are equal and superior, in many respects and conditions, and are required and frequently employed by the physician in those cases which it is his more particular province to treat.

In conclusion, I must apologize for the errors of expression, and deficiencies of arrangement in this paper, having written it very hastily, and on the spur of the occasion, and although beauty of diction and order are very desirable, yet *facts*, even if expressed in a plain, inelegant, and irregular manner, are still vastly *most important*. If, therefore, these desultory remarks should elicit more correct views, and induce a more liberal feeling with regard to the promulgation of information upon these and other important subjects, thus assisting in disseminating knowledge, and in breaking down and removing the selfish, illiberal, and injurious practices and principles of those engaged in the support and sale of secret remedies, the design of this article will have been accomplished.

ANSWERS TO DR. PARMLY'S QUESTIONS IN THE JUNE NUMBER OF THE RECORDER.

BY THE EDITOR.

Before replying to the interrogatories put to me in the last number of the Recorder, I wish to say that my answers will contain my own candid and honest opinions, founded upon practice, observation, and experimental research during a period of fifteen years. I shall not resort to any evasion or quibble, but answer the questions fully, according to the best of my ability, trusting that Dr. Parmly will do the same in replying to those which I shall propound for his consideration. I do not now claim, and never have pretended to, that my opinions upon this or any other subject, are infallible. I may be in error; but this I do say, that I have not, like Dr. Parmly, condemned amalgam on short acquaintance and before I had used it in my practice, neither have I recommended it until I had tried it, "summered and wintered it," and then only in those cases where I had proved its superiority to gold. I have, therefore, no pride of opinion to sustain, for so cautiously have I recommended and used it, that my reputation with my patients is no

identified with this kind of practice, and I could, and would relinquish it to-morrow if I thought it right to do so. Not so with many.—A member of the American Society, candidly said, in my office, but a few days since, that, so strongly had he opposed it in his neighborhood, that he would not now use it even if he knew it to be good practice. Such is prejudice and pride of opinion when men have once strongly committed themselves.

Ques. 1st.—Dr. Parmly asks—“Does Dr. Allen think and say that such front teeth as can be stopped with best gold stopping, should ever be stopped with amalgam?”

Ans.—No. Vide Dental Recorder, Vol. 4, page 50, for my reasons.

Ques. 2d.—“Should amalgam ever be used in back teeth where gold can be safely and permanently secured? If so, in what cases, and for what reasons, should it be used in such cases?”

Ans.—If an intelligent and thinking patient, who had given the subject any reflection, were to request his dentist to fill with amalgam those teeth which were so far back in his mouth as not to be exposed to the view of others, I should say that the dentist would manifest more obstinacy than discretion by refusing. Believing, as I do, that amalgam in the mouth (when properly compounded) is wholly innocuous, I should regard it as a mere matter of taste, as I should if a white man were to prefer a black wife to a beautiful bride of his own color. If I were ever to recommend it in such cases (which I never have) it would be for those persons who could not afford to pay for gold, and for whom I could not afford to work at amalgam prices. Vide also Dental Recorder, Vol. 4th, page 243.

Ques. 3d.—“Do those who use amalgam for stopping front and back teeth, susceptible of being beautifully and permanently stopped with gold, (saying the former is best) manifest and exercise, in their practice, as well instructed dentists, the highest degree of professional knowledge, skill, and honesty? Is not one or the other of these three qualities wanting in dentists who do this? or why is it that such men as Dr. Lovejoy, and others of equal standing, remove such amalgam stoppings and substitute gold ones? or for what reason, or to what motive or object, would Dr. Allen ascribe the use of amalgam in the first place by such users, in such cases instead of gold?”

Ans.—Dr. Parmly puts an extreme case when he asks if those who use amalgam, in *front teeth* which are susceptible of being *permanently* stopped with gold, exercise the *highest degree* of professional knowledge and skill.” As a general answer I should say no: but how if it

is a doubtful case to one who, as an operator, is really above mediocrity, though not so to him who possesses the *highest degree* of skill? Supposing the dentist *doubts* his own ability, or that of any other dentist, to put in a permanent filling, and is too honest to take his patients money under this risk; but believes that a tin filling may be made to stay, and so fills it with tin, making what Dr. Parmly calls in such cases a "soft filling." Would this evince dishonesty or a want of knowledge and skill? Certainly not. Neither would an amalgam filling if the patient preferred it to an artificial tooth, and the dentist thought it the best practice under all the circumstances.

I can see no reason why a dentist should be judged, in respect to his "knowledge, skill or honesty," by his amalgam fillings, any more than by his gold or tin ones. If his gold fillings are soft and the cavity not properly prepared, we say with justice that he is not a good filler; but charity forbids that we should pronounce him dishonest. So of his tin fillings; if they are put in on the grinding surface of a molar tooth where gold would wear much longer—and as I think do much better, I do not question the man's honesty, nor, if the work is well done, his knowledge or skill; but simply recommend that the teeth be refilled, if needing it, with gold. I would judge an amalgam filling in the same way. If the cavity was neatly and properly prepared, well filled and smoothly finished upon the surface and around the edges, I would say that it was done by a skillful dentist, and I would not think him dishonest because he thought and said it was better than gold for such a situation; but if I found the work badly done, no matter what the materials used, I should say, if I said anything, that it showed a want of skill—while if tin or amalgam fillings were put into the front teeth, (unless in a very doubtful case for a gold filling) and an exorbitant price charged, I should certainly suspect either the man's motives or think that he evinced a great want of skill and taste. It is not true, as has been said by Dr. Parmly, that it requires neither study, skill, art nor science, to fill teeth with amalgam, or words to this effect. Show me a man who puts in amalgam fillings in a neat and workman-like manner, and I will show you a good gold filler. I have never yet met with an exception.

Furthermore, neither Dr. Lovejoy nor any other man of equal standing, would remove a sound amalgam filling, to substitute gold for it, in the back part of the mouth, any sooner than he would a tin one, unless he was requested to do so, or unless he honestly believed that it would produce a mercurial taint in the system, which I consider impro-

bable. I would ascribe the use of amalgam, instead of gold "by such users" to different motives according to the appearance of the work. In one case I might judge the operator to be a great scoundrel, in another I might say he was no doubt honest but knew nothing about his business, while in still another (and such a case I saw but a few days since, where a poor sewing girl had several teeth beautifully filled with amalgam, for fifty cents each, by one who knows how to put in good gold fillings, and usually charges a high price,) that he had probably done the best he could under all the circumstances. I trust that Dr. Parmly will now see that all the circumstances should be taken into consideration before pronouncing a dentist ignorant, unskillful, or dishonest, and that to do so, or to condemn a whole class, without qualification, in the news papers, because they say amalgam is better than gold, is both unreasonable and unjust, without specifying the particular cases.

Ques. 4th.—"Will Dr. Allen give his reasons for filling roots of teeth, where artificial ones are to be engrafted, with amalgam instead of gold? (in leaf or tube) seeing that amalgam almost immediately blackens the roots, and the gums covering them; also causing irritation and disease."

Ans.—I have not to my recollection used amalgam for filling roots of teeth, instead of gold, for about twelve years. I only use it around platina tubes, where the fangs are decayed, funnel form, quite to their periphery, and when it is desirable, as it always is, to delay the insertion of plate and clasps as long as possible. In a few cases where one or two pivot teeth have been worn as long as they could be on wood pivots, I have adopted the plan of operating alluded to in the Dental Recorder, Vol. 4, page 51, with great success, preserving the fang several years longer than I could by any other means within my knowledge. In Vol. 3, page 261, I have given my reasons for preferring a gold tube and gold filling to platina and amalgam. It is only in those cases where, in my judgment gold cannot be secured around the tube that I use amalgam. See Vol. 5, page 121 Dental Recorder. If the amalgam should blacken the root, and if it should show through the gum, as it sometimes does, the patient has only to choose between this and a gold plate, wearing away the sound teeth, to which it is to be clasped. As to its causing irritation and disease, I don't believe a word of it, if I did I would denounce the use of it, in all cases, as strongly as Dr. Parmly ever did; but I would not distrust a man's "integrity" because he thought differently.

Ques. 5th.—"If amalgam is better for stopping one tooth having a living nerve, why is it not better for all teeth having living nerves in the

same condition, and why should it not be universally adopted in dental practice instead of gold, it being at one-fiftieth part the cost, used with one-twentieth part the pain and inconvenience to the patient, and one-tenth part the time commonly employed in stopping with gold?"

Ans.—As a substance for the preservation of the teeth, merely, amalgam undoubtedly answers as good a purpose as gold, when both are used with the same care and skill*; but its color is a decided objection. Its want of malleability may also be an objection in some cases, and I have always admitted the bare possibility of its producing mercurial effects in a system peculiarly predisposed when used in very large quantities, though I have never seen such a case. If my life, fortune or happiness depended upon the preservation, *merely*, of the crown of a tooth, without regard to its appearance, such is my confidence in amalgam, that I certainly would use it in preference to gold for filling that tooth. But I prefer gold in all cases where it can be used with success. See Dental Recorder, Vol. 4, page 243. If the dark color is an objection to its use in teeth with healthy pulps, that objection becomes much stronger against using it in teeth destitute of pulps, for these are always stained much darker by it. "There is also a set of dentists who are such astute pathologists that they never look beyond an amalgam filling for the cause of alveolar abscess, fetid breath, profuse salivation, or any other evil to which the mouths of their patients are subject. We do not care to give such men an opportunity to abuse us or fool the public."—Dental Recorder, Vol. 4, page 50.

Ques. 6th.—"As Dr. Allen knows what my objections to amalgam are, will he state whether I have just grounds for such objection? If I have not, will Dr. Allen show the fallacy of such objections? It has been stated in a highly respectable medical journal, that 'there are certain kinds of amalgam that are innocuous.' If there are such kinds, will Dr. Allen inform the profession how and of what materials they are compounded, so that the public and the profession may have the benefit of them?"

Ans.—If I am properly informed, Dr. Parmly's greatest and principal objection to the use of amalgam is, that he believes it to act deleteriously upon the system, both generally and locally; to the injury of the health, the teeth, and the gums. With all due deference to Dr. Parmly and others who think with him, I must say that I think he is mistaken. The following extract from an article by John Trenor, M. D., pub-

* Vide Dental Recorder, Vol. 2, page 29 and 95, and Vol. 3, page 101 and 102. See also Dr. John Trenor's opinion upon this point, Vol. 2, page 91.

lished in the New York Journal of Medicine, contains so nearly my own views upon this subject that I transcribe it.

“Certain *preparations* of mercury, it is well known, produce, under certain circumstances, very powerful effects upon the human frame; but in order to do so, it requires to undergo a change in its composition and character, which in the form in which we find it in this amalgam, it never does or can undergo. It requires a degree of oxydation or a minuteness of division which renders it useless, and altogether impossible to employ for the purpose of filling. The two characters are entirely inconsistent with each other. If the quicksilver in the mixture undergoes such a change as to allow of its mercurializing the system, it will not answer as an ingredient in the filling, and vice versa. In the combination it forms in this filling, and as long as it remains so combined, it cannot affect the system. In the amalgam, it is in combination with a large portion of silver. Now before the system can become subject to its mercurializing influence, it must first become uncombined from the silver, which is impossible because of its stronger affinity for that metal than for oxygen: and, secondly, must recombine with such a quantity of oxygen as it cannot be made to unite with in the mouth. Add to this, that the exposed surface of the filling itself must also have lost its cohesion; to have become quite soft; and to have very perceptibly diminished in quantity. But when in the face of all these impossible, yet absolutely necessary changes, to make valid the objections under consideration, we find it after one or two or five or ten years use in the mouth, still presenting the same appearance, solidity and quantity, as when first put in; and that there is not nor ever has been, a single symptom of mercurial action, local or general, upon the system, the fallacy and folly of the objections urged against it are almost too glaring to be worthy of serious argument to refute. With equal propriety might it be urged against gold, that because when highly oxydized, it becomes a very powerful medicinal agent; therefore it should not be used as a filling for defective teeth. Such cases, too, as those which have been given, afford evidence enough that the error of those opposed to the use of this amalgam on the ground of its dangerous and poisonous effects upon the system, proceeds from a want of discrimination between diseases totally different in their cause, character, treatment and consequences. But the fact that this amalgam has been in use for about twelve years: and that for some years past, wide-spread has been its use, and vastly is its use increasing in and about this city, and everywhere else in this country and abroad; and that numberless, it certainly may safely be said, thousands of these fillings have been put in teeth, where they are known to have remained for periods varying from one to eight and ten years; that there is no alteration or diminution on the exposed surface of such fillings where it is not necessarily worn down by chewing, and that not a single authenticated case has ever been produced by physician or dentist, of illness or injury resulting from its use, it seems impossible to desire more conclusive testimony that, as regards the health, nothing can be employed more entirely harmless.”

Another objection which I understand Dr. Parmly to urge against amalgam, is that "there is neither study, skill, art, nor science needed" to use it, and that therefore the profession of the dentist is cheapened and degraded by ignorant, incompetent practitioners, who take up the business without any of the above qualifications. If the premises were true there might be some reason for the conclusion, but it certainly requires study of the anatomy of the tooth to properly excavate it, and avoid the nerve, skill and art to use the instruments dexteriously and prepare the cavity neatly for the reception of the amalgam, and the same amount as if gold were to be used. The mere filling of the cavity it is true is more simple; but no person can succeed who does not know how to use gold well also. I do not believe that any larger proportion of dentists have taken our business upon themselves without proper qualifications, since amalgam came into use than before. These are the principal objections which I recollect to have seen or heard urged by Dr. Parmly, if there are others, he should have stated them himself.

The amalgam of silver, when made of pure materials, is susceptible of being worn in the mouth, as has been proved in many instances, from ten to near twenty years, without any apparent waste or change, except a slight discoloration, which is almost entirely prevented by the addition of a small proportion of tin. Needs there farther proof of its innocuousness?

Ques. 7th.—"Dr. Koecker, in his able treatise on the teeth, says, 'It cannot be denied, that it (gold) is the only proper substance for plugging teeth' I have contended for this opinion of Dr. Koecker, and for nothing more. If it can in truth be denied, will Dr. Allen make the denial, and show the falsity of Dr. Koecker's statement?"

Ans.—I have practically denied this assertion of Dr. Koecker every time I either used or recommended amalgam for filling teeth, and so has Dr. Parmly, when he used tin for the same purpose, and the falsity of it is proved by the hundreds of good tin fillings which he has put in for the last thirty years, and the tens of amalgam which I have inserted within ten years.

P. S.—Since writing the above, I have received another communication from Dr. Parmly, close written, and covering over five pages of foolscap, in reply to the few remarks which I saw fit to make upon his last article. In this communication Dr. Parmly goes over almost the entire ground of the controversy which has been pending in the Recorder since February. I cannot see the utility or propriety of continuing it any longer, if there was room which there is not in the present num-

ber, for it is evident that Dr. Parmly and myself cannot see and understand things alike; it is better, therefore, to agree to disagree. As Dr. Parmly seems to labor under some misapprehension, however, in reference to the spirit and feeling with which my remarks to his articles have been penned, and lest some of the readers of the Recorder may take the same view, I wish to say that he and they are mistaken if they suppose that in any thing which I have written and published concerning his opinions upon Dentists and dental practice, or upon his professional acts, I have been actuated by any unkind feelings towards him, personally, or that I intended to imply anything of the kind in the remarks upon his last article in the Recorder.

It has always given me pleasure to bear testimony to his high position as an operator upon the teeth, and the good influence which his success, his example, and his precepts, in the main, have had upon our profession. I have at the present moment no "ill will" towards him, and would not, if I had the power, injure a hair of his head; but my own convictions compel me to disapprove of the course which he, in common with a majority of the members of the American Society, has taken in reference to amalgam, and those who use it, and this I can do without any ill will or unkind personal feeling towards either him or them.

QUESTIONS TO DR. PARMLY UPON THE SUBJECT OF AMALGAM.

The above answers are as concise and as much to the point as I can now make them; did time permit I could go more minutely into the subject and give my reasons more fully for the opinions which I have advanced. Those who have full files of the Recorder will see by my references that most of the questions have already been answered—and more fully than in the present number. If Dr. Parmly will now answer the following questions, to use his own words, "in all fairness and candor, and without personality, having the good of the profession at heart," it will give me great pleasure to publish his opinions upon this interesting subject, for he says rightly that "the Dental Recorder was and is designed to disseminate correct professional information."

1st. Does Dr. Parmly believe that amalgam, when used with the same care and skill that should be exercised when stopping with gold, will preserve teeth from decay, and if so, how does its preservative qualities compare with those of gold under the same circumstances and condition of the tooth?

2nd. How long has he ever known an amalgam filling to remain in a tooth without any apparent waste or corrosion from the surface exposed to the secretions of the mouth?

3rd. Does amalgam, when used for filling teeth, produce any different effects upon those with and without living healthy pulps, and if so, what is that difference? and has he submitted any teeth, that had been filled with amalgam, to chemical or microscopical observation, which had healthy live pulps in them when extracted? if so, what was the result, and how many pulps has he ever known to be destroyed by amalgam in teeth which were in a favorable condition to be filled with gold when amalgam was put in?

4th. What reason has Dr. Parmly for believing that amalgam ever produces injurious effects upon the system, (I mean any degree of pytalism) and how does he suppose those constitutional effects can be produced by it?

5th. Does amalgam ever produce any local effects upon the gums and secretions of the mouth, except such as are manifested when the whole system is in a state of pyta'ism? If so, will he give his reasons for this effect, and the *modus operandi* by which it is produced? and what reason had Dr. Parmly for saying that the disease of the antrum maxilare, described by him in the New York Journal of Medicine, Vol. 9, page 374, was "unquestionably" caused by amalgam, in the tooth which he extracted?

6th. Are wisdom teeth, when there are no other molars left to masticate with, if badly decayed on their labial and posterior surfaces, teeth badly worn by gold clasps, molars, and fangs which are too much decayed to be filled with gold, ("in leaf or tube,") ever "worth preserving," and can Dr. Parmly preserve them with any kind of filling as long as he has seen them preserved by amalgam?

7th. In what situations and conditions of teeth does Dr. Parmly think it justifiable to use tin fillings, and are they in any cases, and under any circumstances better than gold?

PROPOSITION TO ESTABLISH A LECTURESHIP ON DENTAL SURGERY IN THE MEDICAL COLLEGES.

We have received from Dr. E. B. Gardette copies of his original proposition, and also his reply to a notice of that proposition in the American Journal. Dr. Gardette urges this plan on account of its usefulness to the general surgeon, who is compelled to perform some ope-

rations in dental surgery, as well as to him who practices only this speciality, and also as a means of promoting a unity of the profession of medicine, including all its specialities, not excepting Dental Surgery. He specifies no particular plan of instruction, but leaves this to the colleges, and seems to think that such a plan if adopted would be for the pecuniary interest of Medical Colleges, by drawing more students to their halls.

This article naturally attracted the attention of Prof. Harris of the Baltimore College of Dental Surgery, who has republished it with his own criticisms, in the April number of the American Journal of Dental Surgery. The Professor seems to think that the proposition of Dr. Gardette is made at a very "unfortunate time." Just as the Baltimore college is beginning to extricate itself from the difficulties under which it has struggled through twelve years of infancy, and is raising its head and standing among other kindred institutions upon its own sure foundation, comes Dr. Gardette to inflict, if possible, a mortal wound upon it, and consign the whole to the medical faculty to dissect as they see fit, and make of it such a preparation as pleases their fancy or suits their interest. But Dr. Harris seems to think the scheme of uniting medicine and dentistry, and teaching both in the same college only a plan for making poor dentists, inasmuch as dental practice cannot be taught in the time usually allotted to a course of medical lectures, at least not without neglecting some branches of medical knowledge. Under this system he thinks that mechanical dentistry will descend to the goldsmith, and dental surgery be only "a dishonored appendage to medicine." "The young physician will regard it as a catchpenny attachment, to his legitimate pursuit, to be used to fill up the vacancies of medical practice—to be a biscuit-bag to his profession—an alimentary resource upon which he can rely upon a pinch." The Professor entertains the opinion that the only way to build up the profession of dentistry, is for all the dentists to combine their efforts and sustain the Dental Colleges.

Dr. Gardette returns to the charge, in the Medical Examiner for June, and replies to some of the arguments of the Professor in a very able manner, to which Dr. Harris rejoins, with considerable warmth, in the July number of the American Journal, which has just come to hand.

We have not space to analyze the whole of these articles in the present number of the Recorder; but we are glad to see that the subject of Dental Colleges and dental lectures is enlisting the attention of both

dentists and physicians, and that its discussion is in the hands of two such able champions. In the first number of the first volume of the Dental Recorder, we gave our views in favor of teaching dental surgery in medical colleges in preference to the establishment of colleges for instruction in this one specialty. We have never seen any good reason for changing that opinion, though we have no objection to dental colleges for those who wish them. The degree of D. D. S., if conferred with that care which should always be exercised, not to give it to unworthy candidates, must always be an honorable one; but we doubt if it would be *prima-facie* evidence of as high a degree of merit as that of M. D. The associations connected with the time honored profession of medicine are such as to make the latter a passport at once into good society, while the former would be looked upon with distrust, and its possessor questioned for some other credentials. Of course we speak only relatively and with reference to the *general* standing of physicians and dentists in the community. We doubt if there is a single graduate of the Baltimore College who, if he could retain all his dental knowledge, would not gladly exchange his diploma for one from the University of Pennsylvania, and the medical qualifications which her graduates possess. We should be glad to see the profession of medicine a unity, and all its specialities under the broad seal of M. D., and we can see no good reason why this can not, and should not be the case; but we are well aware of the jealousy which exists between dentists medically educated and those who are not. It is very common for mere dentists to rail against those of their own profession who happen to have the title of M. D., and are at the same time poor operators, as though the degree was the cause of their being bad dentists. We should like to know if any amount of medical knowledge, however large, ever made a poor dentist. For our own part we hope to see dental professors appointed in every medical college, and we care not how fast dental colleges multiply either, for there is nothing antagonistical in them, and if students prefer the latter, it will be because they can learn most in them, but if the former, nothing is easier than to change the dental colleges into medical.

ERRATUM.—In Dr. Parmly's last question in the June number, the name of Dr. Koecker, is misprinted "Hoecker."

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PIVOT TEETH.

BY J. TAFT, D.D.S., XENIA.

The operation of inserting pivot teeth has been considered by many as one scarcely admissible, alleging that it is without a scientific basis; experience, however, shows us that this operation may frequently be performed with the happiest effect. To the ordinary method of inserting pivot teeth, there are many serious objections which cannot be overcome while that method is pursued; the tendency to rapid decay, and the consequent irritable condition of the contiguous parts, and the frequent production of abscess, the offensive odor, and vitiated condition of the mouth, are objections, as intimately connected with the common method as cause and effect can be. There are other objections that might be named, but the above are the principal ones, and those most commonly referred to. The rapid decay of the roots of the teeth bearing artificial crowns, is occasioned by their continued exposure to the action of the fluids of the mouth, and that in a vitiated condition; this exposure is in no way prevented by the common wood pivot.

The irritable condition of the contiguous parts is in almost all cases produced by *decaying* roots of teeth, those roots that remain sound, do not, with few exceptions produce irritation.

Without irritation there is no abscess. The offensive odor is either a consequence of the decaying condition of the root, or of an accumulation of vitiated foreign matter in the joint between the crown and the root. The offensive condition of the mouth may arise from the same cause. Any method by which these difficulties can be overcome would add much to the value of pivot teeth. This can be almost if not altogether accomplished by the use of the gold tube, and a gold substitute for the wood pivot. This operation though it has for the most part been described, is not yet practised to any extent. The gold tube or hollow wire can sometimes be obtained at the dental depots; but it is difficult to get it, as it is wanted in every case. The manner in which it is prepared is very simple: take a piece of common gold plate medium thickness, and about three and a half lines in width, and of any desirable length, and close it round a steel wire, just the size the pivot is designed

to be ; close it as perfectly, with the hammer, in the groove as possible, then anneal and draw it through the draw plate, with the steel wire still within it, until it is perfectly smooth and even. The tubes may now be sawed off at the proper length, and one end of the joint soldered : next smooth off the soldered parts, and then with the screw plate put a sharp fine screw thread upon it. The tube is now ready to be inserted; the root having been prepared and drilled out to the proper size, the tube having a piece of steel wire in it, is grasped with a pair of small pliers, with a slide to fasten them upon it; it is very carefully screwed into the cavity of the root, until it is to the bottom. Great care must be exercised in this part of the operation; after the tube is in, if the root was perfectly sound, with a small fine saw, the projecting part of the tube is cut off, and then with a very fine file dress it smooth with the root, and then burnish it and the end of the root until they are perfectly polished. I do not think it necessary to use the screw tap in the root before inserting the tube, for it enters equally as easy without the tap, and introducing the tap would only cause a greater amount of irritation; it is very apparent that it would be almost impossible to make the thread of the tube follow that made by the tap in the root; and if one should cross the other, the operation would not be so perfect; the tube will cut its way quite as ready as the screw tap. It is oftentimes the case that the bone of the tooth, at the orifice of the cavity, even after the fang has been dressed off, is decomposed; when this is the case the decayed portion should be perfectly removed with the excavator—and after the tube is inserted and before it is cut off, the excavation should be perfectly filled with gold, and then all dressed and burnished together. A root prepared in this way is in much the same condition as a plugged tooth, except that a small portion of the tooth bone is exposed, but this, if well burnished, will resist decay for a long time. Here there is no cavity exposed, no lodgment for vitiated matter.

“ The root is now ready to receive the artificial crown which must be furnished with a pivot of gold; having the pivot wire of the right size, a portion of the hollow wire of which the tube is made, should be cut off equal in length to the depth of the hole in the artificial crown, into this place the first, and after applying ground borax, insert both into the crown, and then solder. The blowpipe must be used with great care to prevent cracking the tooth; for soldering, the tooth should be placed upon a piece of charcoal, and not in plaster. In directing the flame upon it, it should be thrown upon the body of the tooth and not

upon the pivot, that the solder may flow down to the bottom of the cavity.

Pivots thus put in are as firm as if put in at the formation of the tooth. After dressing the pivot at the neck of the tooth where the solder may have flowed, it is ready to be inserted. Teeth thus inserted can be removed at pleasure, and may be kept as free from offensive accumulations, and odors, as artificial teeth under any other circumstances.

If this method of inserting pivot teeth was adopted by all good dentists, it would add very much to the character of this operation which has been at a low ebb.

The principal objection, by dentists, is the amount of time and labor required for its performance; this, however, is an objection only with those who have but seldom attempted it. It is in this as in other things, familiarity gives facility of execution.—*Dental Register*.

Remarks upon the above.

The above article is worthy the attention of practicing dentists, who, if they understood their own interest, (which is always the interest of their patients,) would adopt it, or something like it as their rule of practice, in place of the very defective method of using wood pivots. In sound and healthy roots, we do not think it necessary that a gold tube should be inserted. A gold pivot well secured to the artificial crown will, if properly done, last for many years. It is now between seven and eight years since we inserted two of the six front teeth, for a lady, on gold pivots. A year or two after, another dentist inserted the third on a wood pivot. Now, although the latter was no more exposed to mastication than the two former, still it has become loose, by the wringing and straining of the pivot, and has been twice re-set. Each time the dentist found the fang decaying, until, finally, it gave way, and the whole had to be extracted to give place for a plate. One of the fangs where the gold pivot had been used was as sound as ever, while the other, on account of the artificial crown being thinner in its labio-palatal diameter was slightly decayed where it was exposed to the secretions of the mouth and foreign decomposing matter, though both were firmly in contact with the prepared ends of the fangs. The lady said she had always felt a firmness and security in those teeth, which had never been the case with the one inserted with wood. Such facts should have an influence upon those who are anxious to do the best kind of work.

We cannot agree with the writer in the opinion that it is unnecessary to tap out the root before inserting the tube. We tried this thoroughly

before using the tube, and found that we could not cut anything like a full thread in the fang without using taps or endangering the root by twisting it too hard. We now use two taps, the second a little larger than the first, which insures a full, strong thread in the fang without injuring it. When prepared in this way the tube will hold much longer than with an imperfect thread.

In volume 1st of the Recorder, we gave our opinion against the wood pivots in common use, and in volume 3d, page 260, described the very plan here recommended, which, with few exceptions, has given great satisfaction.—*Ed. Recorder.*

TREATMENT OF TUMORS AND ABSCESSSES.

BY GEO. J. ZIEGLER, M. D.

Messrs. Editor's:—A short time before the reception of the last number of your Journal, in examining the mouth of a gentleman, I observed a small tumor in the inside of the cheek, below, and a little posterior to the left angle of the mouth, somewhat similar to, although not so large as the one described in your extract from the Boston Journal. I directed the attention of the gentleman to it, and obtained his permission to treat it, which I did by merely puncturing it with a lancet, and extending the incision through it from one side to the other, thus exposing its interior, then cauterizing the whole of the internal surface of the lining membrane with nitrate of silver; and in consequence it collapsed, and healed very rapidly in a few days by the first intention. This is a very simple and generally very efficacious mode, without resorting to the complete excision, and superseding the necessity for general anæsthesia for the purpose of treating these tumors, which are usually, as was this one, filled with a glairy fluid, somewhat resembling the vitreous humor of the eye, and of such a consistence as to remain stationary, except the protrusion, after even complete separation of its external supporting and lining tissues, it seeming to be deposited and retained in cells, and surrounded by a membrane [analogous to the hyaloid membrane. The treatment is in accordance with established and known principles in surgery, being similar to that required in various other analogous conditions, such as tinct. of iodine, port wine, &c.

This principle might be made of more general application in the treatment of analogous tumors, in other parts of the body, with or with-

out the evacuation of their contents, according to circumstances ; and also deeply seated abscesses, indisposed to heal, which are frequently connected with the surface by a fistulous opening, and if not, the contents could be first, generally, readily evacuated by incision, followed by the injection of solution of nitrate of silver, tinct. of iodine &c., which would no doubt promote the tendency to healthy granulation, by exciting inflammation or exalted action, and consequent adhesion. But what I desire more particularly to draw attention to, in the application of this principle to dentistry, is the treatment of alveolar abscess, especially important where it is connected with a tooth or teeth, the preservation of which is so often of the greatest moment. It is well known that the treatment of this affection heretofore has been very unsuccessful, so much so, indeed, that almost all writers consider it entirely nugatory, and that the only alternative is the sacrifice of the tooth so implicated. I have been in the habit of using the tent in these cases, but, I must confess, with very little benefit ; yet this may have been from the stage of the disease, or from not persisting in its use steadily for a sufficient length of time ; and also on account of the difficulty of inducing patients to keep it in, or have it renewed when accidentally withdrawn.

The present course, however, promises something better, and, therefore, it is presented for consideration, and thus we may, in a much shorter time, through the experiments of a large number of persons, obtain a mass of testimony, sufficient to prove its utility or worthlessness. For the satisfaction of those who may be disposed to consider it of doubtful efficacy, I will state, that this principle has been recently successfully applied by M. Boinet to the treatment of extensive abscesses around the joints and bodies of the bones in which they were also involved, and with speedily-beneficial and curative effects. In alveolar abscess this treatment should be instituted, as in the cases reported by him, as early as possible, and more particularly in the congestive and suppurative stage, and better before the bone is denuded, as the earlier it is resorted to the greater the prospect of success, by opening the sac as soon as it is formed, or even puncturing before it is complete, and injecting a solution of nitrate of silver, sulphate of copper, tinct. of iodine (the one employed and preferred by M. Boinet), or any other appropriate remedy, then the insertion of a tent, to cause it to fill up from the base of the cavity with gradulations, otherwise it will generally close at the fistulous orifice, and thus retard, or even prevent, the cure.

The incision should be sufficiently deep and extensive to expose the

periodontum, sac, base of the fang, and the surrounding diseased bone, directly to the influence of the remedial agent, so as to excite more immediately healthy action in the parts implicated. Of course in numerous instances, and particularly in the earlier stages, in the inferior maxillary principally, an almost insuperable obstacle to the proper institution of this treatment would be the thickness of the intervening bone; but in a large number of cases it will be found that this has been previously removed by absorption or disease, and in those in which it has not, it may to a certain extent, where circumstances warrant such a course, be obviated by the removal or puncturing of the external and investing layer, which could, on account of its thinness, be generally readily effected in the superior maxillary especially, in which, from its greater vascularity, this disease most frequently appears.—*Dental News Letter*.

Remarks upon the above.

When the fangs of carious teeth, in which the nervous pulp has been destroyed and removed, are so situated that they can be thoroughly filled with gold to their extremities, if this operation be performed the fistulous openings will frequently heal and the tooth will remain healthy for many years. In some constitutions, however, there is much morbid irritability, and the slightest cause will excite inflammation. This is evinced by every nerveless tooth becoming ulcerated, while in other mouths where there is a purely healthy condition, and an absence of all morbid irritability, half a dozen or more fangs may remain for years without causing the slightest inflammation or inconvenience. In cases of the latter description the prognosis is much more favorable than in those of the former. Ulcers, too, which have been accompanied by severe inflammation, so that the parts for a considerable distance around the fang have become involved, will be found more difficult to heal than when the pustule has appeared over the fang with but little attending inflammation. Ulcers which appear on the lower jaw are likewise less difficult to cure, and frequently heal spontaneously, and as the writer above observes, appear less frequently than in the upper jaw. We have generally attributed this to the fact that when the teeth are filled any extravasated fluid contained within the pulp cavity of the lower teeth, subsides into the soft parts about the extremity of the fang, and is removed by the absorbents, while in the upper teeth it must remain in the cavity until decomposition commences, and gases are disengaged, which can only find vent through the gum.

Now the point which we wish to direct attention to by these remarks

is, that before attempting to treat an ulcerated tooth, for the purpose of effecting a radical cure, all these circumstances should be taken into consideration, and should influence our prognosis. The first step should be, especially in upper teeth, to thoroughly fill the entire fangs. After this is accomplished, if the ulcer does not close, great assistance may be derived from injections, setons and other methods of counter-irritation. Severe frictions with a stiff tooth brush is frequently beneficial. Many years since, before the operation of filling fangs was introduced, we tried injections of a solution of nitrate of silver, but without any beneficial results.—*Ed. Recorder.*

SPECIMENS OF DENTISTRY AT THE "WORLD'S FAIR."

(The following letter is from the Dental News Letter, and is the first notice of the specimens exhibited which we have seen, except a casual remark from the Editor of the Boston Medical and Surgical Journal, asserting the great superiority of the American work over that of all other nations. We regret that the writer of this letter did not go more into particulars, and tell us who the exhibitors are, what kind of specimens are exhibited, and how the workmanship compares one with another. We should have liked it better if he had anticipated the judgment of the "jurors," or at least given his own criticisms on what he saw, but being an exhibitor himself, perhaps he thought it more modest to express no decided opinion, leaving that to the appointed judges to do at the appointed time.—*Editor Recorder.*

LONDON, June 5, 1851.

Gentlemen :—As promised in my last, I can now give you some slight description of the articles of dentistry on exhibition at the "World's Fair," but I fear you may think it very meagre. If so, I can only say the display is meagre—far, far short of my anticipations. Dentistry in Europe affords but a limited subject for a long letter, for the reason that the mass of the work is after the same style, although with different degrees of finish, and in describing one collection all are described.

In all my researches through the exhibition, I found the following :

One case only from Switzerland, which consisted chiefly of bone work, or teeth carved from the hippopotamus, porcelain teeth on bone bases, and one or two cases of French teeth, on plates which were very narrow, and the soldering very rough. The clasps, from their arrangement, were well calculated to injure or destroy the teeth which they embraced. There was one case of human teeth, mounted on gold plate which was neatly done, and an apparatus for regulating the teeth, which was very complicated and cumbersome, and which was to be attached to the teeth with strings. I may say of the bone work that it was neatly and ingeniously carved.

I may say here that I formed the impression that spiral springs are used to a much greater extent here than with us.

From France I could find but one specimen case, which, for size and the quantity of work it contained, was quite sufficient to represent the whole "Republic." At a venture, I would say there were at least fifty different specimens in the case, among which were some nine full cases, in active operation, chewing away lustily; also an entirely new plan of exhibiting, to the best or worst advantage, the want of teeth, after this fashion: as the jaw opens, two or three teeth in the upper jaw slowly move out of sight, leaving an ugly space, particularly remarkable when the jaws come together, then when the jaws open again, these two or three teeth come back to their place, and show the beauty of a perfect set of teeth. Another case is made to revolve slowly, by pivots in the sides, thus showing the shape and workmanship all around, also a great number of small pieces of bone work, or French teeth, on very narrow gold plates, and the clasps made by continuing a small strip of the plate to bend around the adjoining teeth, all beautifully finished and showing much ingenuity, but very unsubstantial and temporary. This collection was a fair exhibit of the majority of French workmanship, only of better finish; and just such cases, only smaller, may be seen at the doors of most of the dentists in Paris, besides numerous flaming placards on the walls, and abundant advertisements in the newspapers, setting forth the superior abilities of Monsieur so and so, surgeon dentist.

From Prussia, one case containing specimens of artificial teeth and samples of the material, which were very similar in style to those made by the French, but hardly so well formed. As some of your readers may not have seen the French teeth, I will endeavor a description of them. They present the appearance, and are about the thickness of the American teeth, but instead of round pins in the back for soldering, they have three narrow pieces of platina plate, two on one side, and one on the other of a groove which runs longitudinally along the back of the tooth to nearly the cutting edge. In mounting them, a pin suiting the size of the groove, is soldered to the plate upright, and the slips of platina plate imbedded in the tooth are bent over the wire and soft soldered. This makes a clumsy piece of work, and must be uncomfortable to the wearer, because they present such a rough and uneven surface to the tongue; besides, they are not, as may well be imagined, very strong, mounted in this manner; and again, the teeth are very opaque and unnatural in appearance.

Passing over a case or two of no possible interest, I come to the English collection, which is more full than that of any other country.

There are some fifteen cases containing artificial teeth mounted, most of which are, however, bone work. I find that a great proportion of artificial teeth in this country is of this hippopotamus bone, all of which are beautifully carved and very accurately fitted, showing great ingenuity in their adaptation and skill, and rapidity in carving. That "practice makes perfect" is abundantly proven in this branch, and I give them credit for beautiful bone work, as well as highly finished plate

work. It is either a misfortune or good fortune, that all this kind of work has to be done over once a year, at most, which would not suit us Americans, as we could not spare the time, and would not like to spend the means, to have a new operation yearly. One argument used here in favor of bone work is, that there is no grating sensation experienced by the wearer, as is the case, to some slight extent, with porcelain teeth; but I think this objection to porcelain teeth would soon cease, if persons would but wear them a short time, and who would not prefer some slight temporary annoyance with porcelain teeth, to the extreme unpleasantness, if not filthiness, of bone teeth? I would, at least, and I speak knowingly, and I think all who wear bone teeth would, if they but knew the difference in point of cleanliness and permanency. Another plan here is, to mount both porcelain and natural teeth on bone bases, and lastly, porcelain and natural teeth on gold and silver plate; however, the latter material is not often used. All the porcelain teeth manufactured in England are, as many of your readers know, made as thick, if not thicker than the natural organs, with holes through bushed with gold or platina, a few, however, without any metal lining. In mounting them, the pins on which the teeth set, are adjusted and soldered to the plate in the proper position; previously, however, the teeth are ground to fit the plate accurately, and in this, as well as in bone work, the fit is complete, no space being left for the accumulation of food or other substance. After the pins are all arranged and soldered to the plate, they are coated with melted sulphur, and the teeth are slipped on and pressed to their position, when the sulphur hardens, thus holding the tooth tolerably firm. Another method is, to wrap the pin, previously made rough, with floss silk, and force the tooth on, the tube in the tooth having been roughened also.

I had always looked upon this method of making and setting teeth, after contrasting it with the American mode, as temporary, and I confess my opinion has not changed after examining the variety on exhibition in London.

All the plate work is beautifully gotten up, very highly polished, and neat in all particulars.

I noticed artificial porcelain teeth, deposited by two manufacturers in London, all finely finished and of natural shape, but opaque, without the translucency of the best American teeth, and too thick; for, when worn in the mouth, they would, I think, fill it uncomfortably full, and confine the tongue to too small limits.

There were several appliances to dentistry, in the shape of a "universal drill for removing decay in the teeth," at an angle of forty-five degrees, which was worked by a crank in the handle. An "electric galvanic apparatus for dental purposes," which was more complicated than necessary. "A compress for alveolar hæmorrhage," which was arranged to pass over and around the head, well calculated to remind one of a straight jacket or a dog's muzzle in dog days, but not half as important or necessary as either. Also, "a series of mechanical adaptations for regulating and preventing the irregularities of the permanent teeth." There was a collection of gold arrangements for capping, band-

ing, etc., rather clumsy, to my notion, and not to be compared, in effectiveness and convenience, to the application of the spiral spring to the same purpose.

Also, "rotary scissors and knife, for dividing nerves," suggestive of the ligamentum dentis. Also, a mechanical leech, which struck me as being quite suitable for dental purposes, doing away with the repulsive crawling live leech.

I was particularly pleased with a series of experiments which were exhibited, showing the unfitness of bone work and silver plates. This was done by subjecting them to the action of dilute acid, which was dissolving them at a slow rate, then, with a written card explaining the whole matter to the spectator, telling him that the 'acid in the saliva would likewise decompose the bone and oxydize the silver, though not so rapidly. Many visitors were informing themselves on the subject, and I cannot but think that these public experiments will materially assist in doing away with that temporary description of dentistry.

I noticed some few cases of teeth mounted upon tortoise shell and gutta percha bases, but the first substance, I was informed, would not retain the shape which was given it by heat, but had a tendency and would gradually return to its original shape. The gutta percha was too soft and yielding, especially so when at the temperature of the mouth.

We now come to the collection from the United States, which I sum up briefly. Two cases of block teeth, mounted. One case of blocks, not mounted. Three cases of gold foil, one of which is from Jones, White & McCurdy. Five cases of mechanical dentistry. One case dental instruments. One case tooth wash and dentrifice. Three cases of artificial teeth, one of which is from Jones, White & McCurdy. And last, though not least, two cases of plugged teeth, one of which is marked simply "Philadelphia," and is, unquestionably, among the best and prettiest fillings I ever saw. They remind me forcibly of a certain gentleman's workmanship, but whether his or not I would not like to say. However, Philadelphia has the honor of it, which is no small praise. The other case is, to all appearance, very creditable, and they both reflect much honor upon American dentistry.

Of the American teeth here, it, perhaps, does not become me to say much; but this I may say, and I think it is evident to any unprejudiced mind, that they, or some of them, are much more translucent and vital in appearance, more beautifully tinted, and more natural in shape and shade, than any others from any quarter. And when mounted, as it is done in our country, and shown here by several beautiful specimens, (all of which are from Philadelphia and New York,) they can be worn with more ease and comfort, and be more serviceable and permanent than any other style of teeth mounted in any other manner. I may be prejudiced, but I think a fair comparison, by competent judges, will prove the correctness of the above.

The amount of dentistry performed in England is quite limited, in comparison with our own country; for these reasons, probably, that their teeth generally are more durable. Again, it is the upper classes

only who can afford it—while in France, their teeth are, to all appearance, quite as frail, and decay quite as soon, as with us; yet there, also, but few can afford to pay for it. In Germany their teeth look as if they would never know decay, and, consequently, the dentist gets but a poor support. I would not neglect to acknowledge the courtesy extended to me by many gentlemen in the profession, among whom I may mention Dr. James Robinson, of London, Dr. Mein, of Edinburgh, Dr. Brophy, of Dublin, Dr. Helsby, of Manchester, and Dr. Evans, of Paris. Many others I might mention, but they will all receive my hearty thanks, and I can only say, I hope I may have the opportunity of reciprocating, in some way. With Dr. Evans, who is an old acquaintance, I felt quite at home. And I will just say here, that America bears off the palm in dentistry; for Dr. Evans numbers among his patrons the Kings of Bavaria, Prussia, and Greece, and the President of the French Republic, beside numbers of the nobility, among whom are several prominent persons at the Court of the Emperor of Russia, and all obtained through several difficult but successful operations performed for persons high in office and influence at some of the above-named courts. I wish him success, with all my heart, as he well deserves it.

To conclude this very long and desultory letter, I would say, that great quantities of amalgam are used in France and Germany, and much in England, and oftentimes the filling is put in without removing the decay. Low grades of gold plate are used, also some silver, and, occasionally, palladium.

The prices, so far as I could get at them, range about as with us, some getting high rates, and some working very cheap for very cheap work. Occasionally, however, as with Drs. Brewster and Evans of Paris, a large sum is received for an important operation, when performed for an important personage. In haste, yours, truly,

J. R. McCURDY.

A TEST OF LEVETT'S PATENT ENAMEL, AND ITS DISCOVERY.

BY C. T. CUSHMAN, D. D. S., Columbus, Geo.

"Discover differs from *invent*. We *discover* what before existed, though to us unknown; we *invent* what did not before exist."—*Webster's Dic.*

MR. EDITOR:—You will surely excuse a short commentary on "one of the greatest dental discoveries of the age," since, by a relation of my own experience with this so-called "new discovery," I hope to gain, in return, that of some of my professional brethren.

I have before stated, publicly, that a suitable *enamel* for covering dental plates, was still a *desideratum*. I stated this after the *modest* announcement of M. Levett had appeared, that his "philosophical and chemical composition is destined to effect a thorough and extensive change in the practice of the dental art," and before I had personally *tried* it. Having

since paid \$50 for the privilege of making experiments, and given them, as I think, a sufficient test, I can now say positively, that I think a suitable enamel is still a desideratum in mechanical dentistry, and, perhaps, *always will be*.

It was principally through the *unqualified* recommendations of *eminent* dentists, in various parts of the Union, which were shown me, that I was induced to purchase; and I can readily believe that the discoverer, as he admits in his circular, *is*, to an eminent degree, indebted "to his professional brethren, for their enlightened, generous and disinterested testimony."

I think it was most *too* generous, to *unenlightened*, and the "patent enamel" a substance of no practical value, notwithstanding it may have been introduced into the "most intelligent and fashionable families."

Waiving all such *substantial* claims to merit as the foregoing, or that it has a "sweetening influence on the breath," (!) I shall proceed to give the result of my own experience.

The first plate to which I applied it, after finishing and perfectly adapting it to the mouth, was one sustaining two superior incisors, in a mouth whose gums were generally prominent when speaking. I allowed the plate to turn up in front, above the teeth, and enameled this portion, in order to fill up the loss of substance of the gums, &c., and to obviate their depressed appearance. I also enameled the entire plate within the arch, and the tips of the clasps. The coating flowed well, and look-fair and comely; but, on trial in the mouth, I found the plate so *warped* by the process, (contraction of the enamel,) that it would not fit at all! In attempting to obviate this, by forcing it slightly, the enamel began to fly off in scales, as a matter of course. Notwithstanding a piece of enameled silver was exhibited by the sole agent of "exclusive rights," which he bent double and back again, repeatedly, without detriment—(perhaps this was "Japan," or other varnish,*)—enameled mouth plates will not bear the least bending or *springing* without cracking off the enamel coating.

The part of the plate in front, above the teeth, when seen upon the gum, did not appear natural, although well imitating the *color*. A thin or single coat will not sufficiently color the gold; and more than one, on so small a surface, gives a *rounded* or cylindrical body; the line of union with the gum appears at once prominent and *artificial*, unlike a gum-tooth, which can be ground to a thin edge.

* See Patent Specification, Dental Recorder, vol. ii. p. 218.

I therefore was obliged to take off the whole enameling, and for this purpose boiled the piece in muriatic acid, until the whole substance was removed; then re-adapted it. I shall, perhaps, be told, "your plate was too light, sir." I reply, it was about No. 29—not *heavy*, 'tis true, but all-sufficient for the case. It has since been daily worn, *without* enamel, nearly a year, and has never come back for alteration or adjustment.

A heavy plate enameled is *clumsy* in the mouth, and an obstruction to the tongue. Such an one, enameled on *both sides*, (as I have seen,) is intolerable and absurd. It may answer to *exhibit* to those who know nothing of the subject practically. By putting it on the gum side, the accuracy of its *fit* is defeated: it first flows into and fills all the depressions, leaving the prominences, thus *leveling* the surface in effect as if the casts were pared down.

The next case which I shall relate, was that of a temporary set for the lower jaw, on silver plate. The process of enameling was apparently satisfactory—gave a good coating and color. In less than *two months* I saw it again, and it presented a very ugly appearance. Parts of it were *scaled off*; the whole was rough and faded, as though it had been acted upon *chemically* by the juices of the mouth. However, I believe the "enamel" is not generally amenable to this charge. But it was evident, in this case, that the secretions were powerful enough to act upon it. As it then presented itself the coating was decidedly obnoxious.

CASE 3.—An upper set on gold plate. Such very long teeth were required for this, that gum-teeth were too short to allow accurate fitting to the plate on the inside.* After enameling, this looked very well. Four months afterwards it came under my notice again—the wearer wishing to have the "stuff got off," and with some show of reason.

That part within the circle of the teeth was good; but all *without* was cracked off, *carrying with it considerable portions of the gum-teeth*, where they were ground *thin*, to fit close to the plate. Thus they were left mutilated, rough, unsightly and unpleasant to the lip; in much worse plight than before, and irremediable. This result I have observed in several other cases, and the reason appears to be this: the artificial tooth, particularly when *ground* and fitted, presents a porous surface, for which the patent enamel has a great *affinity*, and unites with it inseparably; whereas the gold plate offers no such conditions, and it by no means retains such a degree of adhesion.

* This is a fault that our present style of plate teeth, particularly molars for *lower* sets, will possess, until they are made at least *as long* on the lingual as on the buccal side.

The shrinking of the enamel on cooling is also unequal to that of the gold, so that every similar case, where it has been used for a *filling in* or "packing" substance, to close perfectly all joints and recesses between the teeth and plate, I apprehend it has *always* failed.

This is really the use for which, in my opinion, as I have stated in another place, a perfect enamel is still "a desideratum;" one for which Levett's patent will signally fail.

This plate, as well as the one last before mentioned, was heavier than the first; all three, indeed, sufficiently so for any other similar case, neither of them springing under the hand. Nos. 28 and 29, I presume all will admit, are heavy enough, (when alloyed to twenty carats,) for most upper pieces, and No. 26 for lower.

It is not the springing or *warping* of plates alone, that wrenches it off, but the *concussion* against the artificial teeth in use, which cracks and breaks it up immediately around them—as a blow upon a tree coated with ice, after a winter's rain and freezing, will fracture the glassy coating remote from the point of concussion.

In this last case, the teeth were arranged to antagonize so as to receive the lower front teeth on their cutting edge, by reason of necessity. In case No. 2, the greatest breaking up was along the molars and bicuspid, which antagonized directly with a corresponding artificial set above.

It has been objected, on the score of defence of this article, that the plates must be sufficiently thick. It is possible, therefore, that a small *horse-shoe*, enameled, might stand in the mouth, if never used in mastication. But what said the agent of patent rights to his customers, who apprehended that it might probably scale off by use? "Do you see this?" bedding his enameled (query, *japanned*?) strip of silver, quite double, and then reversely double—"well, that has been done perhaps a hundred times;" and verily, it showed no detriment. But was it a fair sample? A simple coat of some kind of *varnish*, I am inclined to believe. However that may be, let no one flatter himself that *Levett's patent enamel* will stand the slightest bending of the teeth plates on which it has been vitrified; and even a few scales broken away, will make it unsightly, and exceedingly unpleasant to the sense of touch.

I have written the foregoing results of my experience, Mr. Editor, not with a view to disparage merit, nor to discourage a zealous pursuit of discovery and improvement—for I have repeatedly admitted the *desideratum*—but in hopes of getting the experience of *others* with it, through this same medium. I must believe that but few of those who

recommended it, had fully and fairly tried it themselves; and that all who purchased the "exclusive right," would now be willing to sell out their stock at a large discount. For my own part, I think I would be content with ninety per cent. *off*.

I now propose to examine, briefly, the claims to "this new discovery of Dr. Levett's." Delabarre has given a process for enameling plates: Desirabode another—which he, with much candor, does not speak very highly of. It is no new thing, in France. Jewelers have enameled gold, perhaps since the days of Solomon, or since the days of glass manufacture. This kind has also been applied to dentized mouth plates, and, (like all kinds,) as Desirabode says, pieces so enameled "do not last long."

De Loude, an English author, and old practitioner, in detailing a case of an entire dental apparatus for both jaws, which he constructed in 1836, says, "After this, I prepared the whole for enameling, (in a little muffle of a furnace,) the color of the plates corresponding with the inner side of the mouth; and to the cases that represented the back grinders, I gave a color to correspond with the teeth."*

He thus speaks of enameling as nothing *recent*, but of common practice, fourteen years ago; and only to say that he employed it in this case to obviate the "peculiar taste" which his patient experienced on wearing his former sets.

In 1834, there was a dentist in this town, Dr. H. Balsan, from Berlin, who enameled his gold plates. I have been told, by persons who have worn them, and seen them after having been worn, that the *enamel* did not stand much usage before it began to *scale off*.—*American Journal*.

PROCEEDINGS OF THE AMERICAN SOCIETY OF DENTAL SURGEONS.

(Reported for the Dental Recorder.)

The American Society of Dental Surgeons held its twelfth annual meeting at Philadelphia. The society convened at Sansom Hall on Tuesday, August 5th, at 10 o'clock. At this meeting but little was done, and that only preliminary, as but few of the members were present.

At the afternoon session a committee was appointed to whom was referred the charges of "immorality," which had been made against one of the members.

* Surgical, Operative and Mechanical Dentistry, p. 167.

Dr. A. C. Hawes also read to the society the "Aphorisms"* which he had prepared upon the "Importance of cleanliness of the mouth."

Dr. A. Hill read a brief paper on the subject of depositing plates for teeth by the electro-galvanic process.

Dr. E. J. Dunning, of New York, read his aphorisms on the subject of filling teeth where the pulp is exposed. This paper resulted in quite a lengthy and an exceedingly interesting discussion of the whole matter of treating the exposed nervous pulps involving the subject of using arsenic and its concomitants, and the different modes of its preparation and application. Drs. Dunning, Parmly, Westcott, Arthur, Bridges, and some others, participated. But as the matter was taken down by reporters, and will soon be published, we shall only remark that in our opinion Dr. J. D. White, of Philadelphia, gave the most lucid and best description of the matter, and offered the strongest reasons for the use of arsenic in such cases, of any one present.

Dr. John Allen, of Cincinnati, exhibited to the society several beautiful specimens of his improvement in preparing artificial gums. These excited much interest, and the thanks of the society were most cordially voted him for the same. He did not detail the *modus operandi* by which this was accomplished; but said it was the result of several years experiment, and claimed to have advanced the mechanical branch of dentistry in several important particulars.† Dr. Allen avowed his willingness to impart the necessary information to enable dentists to execute this style of work for a proper remuneration; but could not afford to *give* away what had cost him so much time, labor, and money. Our impression is, that Dr. Allen can make a beautiful piece of work of that description, but that it cannot become generally practicable, owing to the many difficulties which must be encountered and mastered before it can be successfully accomplished.

Dr. Allen also gave the result of some of his experiments with electro-plate, and stated that he had inserted several sets by this process. He also exhibited a specimen where the four front incisor teeth were cemented to the gold plate by the electro-galvanic process without any soldering. We had supposed until this that Dr. A. Hill, of Norwalk, had mounted the first set of teeth, by this process, which had ever been worn; but we are not now certain that the priority belongs to

* Some years since the society appointed certain members to prepare a set of aphorisms upon several important subjects connected with the teeth, which were to be published by the society, for the benefit of the public.

† The Dental Register contains an article from Dr. A. upon this subject, which we shall publish in our next number.

him. The society then adjourned to convene at the same place on the following morning.

Wednesday, *August 6th.*

The society met at 9 o'clock, when Dr. A. Hill read a paper on "*Artistic Dentistry.*" This paper was written in Dr. Hill's best style, and was pronounced, on all hands, to be a most able and beautiful production.

Dr. A. C. Hawes, of Providence, read a most excellent paper on the subject of "*Professional Humbugery*" or malpractice, (the precise title we do not now remember.)

The members then interchanged views upon the subject of treating deciduous teeth, and of correcting irregularities, which was very interesting, and will be published. The member against whom the charges of immorality had been preferred, was suspended from membership until the next annual meeting of the society. As the case is still pending before the legal tribunals, and as the society was desirous of giving him every reasonable opportunity to prove his innocence, it was decided that if such evidence was presented, at the next meeting he be reinstated in his membership; but, if the case should finally be decided against him, he is to be expelled without further action. This has been at several meetings a very perplexing case, and is perhaps disposed of in the best possible manner, under all the circumstances.

A committee was appointed to report on delinquent members, and a resolution passed that those who had been duly notified of their arrearages, and still neglected to pay, should be dealt with according to the constitution, which is that "his name shall be stricken from the list of members."

In the afternoon session Dr. J. Foster, of New York, delivered the opening address, before quite a numerous audience, composed in part of ladies. As this address will soon be published, we will only add that a certain Dental periodical came in for some pretty severe strictures.*

This address was followed by another from Dr. E. Townsend, accompanied by certain resolutions, which we are unable to report, not having copies of the same. The address of Dr. Townsend was somewhat antagonistic—both in spirit and in letter to that of Dr. Foster. It was well received, and made upon our minds, at least, a most favorable impression. We need not add that it was written and delivered in Dr. Townsend's elegant and happy style and manner.

* "A certain Dental Periodical" has broad shoulders, and can stand all the abuse which can be put upon it by Dr. Foster.—*Ed. Recorder.*

Several miscellaneous subjects occupied the remainder of the afternoon session. Among them was that of the form of using gold, which gave rise to a detailed account of several different modes of practice. Dr. Arthur stated that he had been using with more ease and much greater success gold foil of No. 30. Dr. White used numbers 3 and 4, thus showing the two extremes.

Dr. Arthur read a paper on the "Dental Literature of America," in which he noticed almost every work which has been published upon the subject of dentistry in this country. It was a very creditable performance and must have cost much time and labor.

During the evening the members partook of a private entertainment at the house of Dr. Burr in Walnut street, to which he had kindly and courteously invited them.

Thursday Morning.

The society convened as usual, when aphorisms on the subject of filling teeth were read by Dr. E. Parmly, which were discussed and adopted by the society.

A committee was appointed to visit the Alms houses and asylums in the different cities, for the purpose of examining the teeth of the children who are inmates there, and report at the next meeting of the society the relative amount of irregularity and malformation found there as compared with children of similar age situated under more favorable circumstances, and to take models, &c. This committee consisted of Bridges of Brooklyn, N. Y., Tucker, of Boston, Allen, of Cincinnati, Cone, of Baltimore, and White, of Philadelphia.

A committee on microscopic observations, on salivary calculus, &c., was also appointed, to report at next meeting, consisting of Drs. White and Townsend of Philadelphia.

The election of officers for the ensuing year then took place, at which we were not present.

Dr. Arthur was appointed to deliver the next opening address.

Dr. Townsend submitted several amendments to the constitution, accompanied by a brief address, claiming the action of the society upon said proposed amendments at the next meeting.

The society then adjourned to meet at Newport, R. I., on the first Tuesday of August, 1852.

FILLING OVER EXPOSED PULPS.

BY THE EDITOR.

It has long been a matter of doubt with dentists whether the pulp of a tooth exposed by caries will retain its vitality long after the tooth is filled with gold or any other material. In connection with this question the following case which occurred recently in our practice will be found interesting.

Mr. J——, a gentleman, from Boston, whose teeth, as he said, had been filled two years, and which were very well done, by Dr. T., of that city, was recently, while on a visit at Philadelphia, taken with what was pronounced by his physician to be Neuralgia, and treated accordingly for several days. The pain was paroxysmal, occurring once or twice every day, and continuing for several hours, more or less acutely, and reaching to the temples, and the ear, and all the teeth on that side of the mouth, although he was not able to locate it in any particular one. While suffering in this way, Prof. B., a physician of New York, happening to be in Philadelphia, and being a personal friend, was called to see the gentleman, and also prescribed for him. Finding that his treatment had no effect to relieve his patient he was led to suspect that the pain might be caused by irritation in some of the teeth, and as they were both returning to New York, recommended him to call on me.

When I first examined the teeth there was a complete cessation of pain, and had been for several hours; neither could I detect any soreness about either of the teeth sufficient to make out a reasonable prognosis. On rapping the teeth repeatedly with the ivory handle of an instrument, there was one which seemed to be jarred more than any other. This tooth was the first inferior molar, left side. It had a large gold filling on the masticating surface; but not larger than the second molar by its side, or either of the superior molars on the same side of the mouth. Altogether the indications of dental irritation were so obscure that I determined not to operate at that time, but requested the patient on the commencement of another paroxysm of the pain to direct his attention to each tooth separately, to bite on each one, and with his thumb and finger to wrench them separately in every direction, and see if there was not some soreness about them, or if he could not discover some indication in one which did not exist in the others.

Mr. J—— called the next day and said that he had suffered considerable pain since I last saw him, and that it commenced in the first inferior molar (the one which I had already suspected, from its being

more readily jarred when rapped by the handle of the instrument) and that while the paroxism lasted that tooth was slightly sore and longer than the others. I immediately removed the gold filling and probed every part of the bottom of the cavity, but without detecting any opening to the pulp cavity or inflicting the least pain. I then directed him to exhaust the air from the hollow of the tooth by suction. This he did, which gave him a sudden start, and produced most excruciating pain. On examining the tooth again I discovered that the cavity was filled with blood. Being now satisfied that this tooth was the cause of all his suffering, after administering chloroform, I extracted it.

On examining the cavity I found that under the anterior and inferior cusp, which is the largest, and where the pulp is higher than under either of the others, there was a very minute opening,—not larger than a fine cambric needle. The tooth had been very thoroughly excavated, not a particle of decay remaining, and the filling was put in in the most solid and substantial manner, and remained without causing pain or destruction of the nerve for about two years. There was no ossification about the opening, though on examining the cavity of the pulp a small osseous particle was found embeded in the substance of that organ, which was also highly injected with blood at the point where it was exposed. I have frequently been greatly assisted in finding out which tooth was the cause of neuralgic pain by requesting the patient to direct his attention to it when the paroxism was commencing or passing away, and, when his suspicion of any particular tooth has corresponded with my own, I have never been mistaken.

RIMMING SETS OF TEETH.

New Hampshire, July, 19, 1851.

DR. ALLEN.

Dear Sir:—Will you, or some of your able correspondents, favor the readers of the Recorder with an article pertaining to rimming sets of teeth.

I never have had much experience in this department, consequently am not informed of the best method—and presume there are many like myself, situated at a considerable distance from the mass of their professional brethren, who would like some instructions relative to the above.

I deem it necessary that this branch of mechanical dentistry should be well understood, as the rimming not only gives the piece a beauti-

ful appearance, but keeps the food in a great measure from getting between the teeth and plate. Is rimming single gum teeth practiced, if so, should the rimming be soldered on before the teeth, and how is it held in place while soldering? An article detailing the different processes gone through with in fitting and soldering the rimming would greatly oblige a

SUBSCRIBER.

Reply to the above.

The rimming of sets of teeth around the edges which come in contact with the gum, about which our correspondent enquires, is an operation in mechanical dentistry which has come very generally into use with our best dentists within a few years past, and very much improves the appearance of the work, greatly increases the strength of the teeth, and stiffness of the plate.

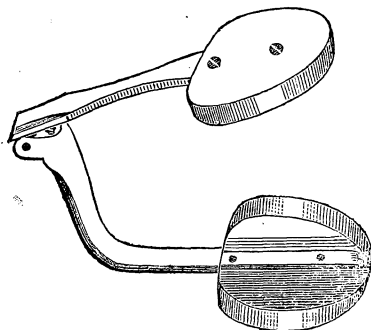
It is confined almost entirely to single gum-teeth and blocks, consisting of from four to six teeth each, though we have seen a few sets of ordinary plate teeth where each tooth had a separate rim. There are two methods of putting on the rim (there may be more) commonly practiced here. The first is as follows.

After the teeth or blocks have been properly jointed together at their edges, and fitted to the plate, a pattern of thick tin foil is cut so as to fit its upper edge into all the inequalities of the plate, where the edges of the artificial gums come in contact with it. For convenience of fitting, this pattern is generally made in four pieces. Thin gold bands (about No. 30, by the wire gauge) are cut by these patterns. Beginning on one side at the back part of the plate, one piece is bent to fit the anterior or external surface of the gums, and with a file the edge is trimmed so as to fit perfectly to the plate; the end should be beveled so that the next piece will lap on to it. When properly adjusted it may be stuck to the plate by means of small pieces of wax or cement pressed into the angle, care being taken not to move it from the plate. When all four of the pieces are fitted in this way, the teeth and wax to which they have been stuck are removed together, without disturbing the banding on the plate. This can easily be done after the banding is fitted, if it has been done once or twice before, so that it will not adhere to the plate. The teeth may be secured together by embedding their points in plaster. After they are removed, plaster and sand may be put over the whole plate, up to the banding, (first having wet with borax the inside edge of the banding where it is in contact with the plate,) and the rimming soldered on the outside; or melted wax may be dropped

into the inside of the rimming, plaster and sand put upon the outside (after removing the wax there) and the banding soldered from the inside. Either plan will answer, though with the former the plaster and sand may prevent the plate from warping, which it is liable to do when unprotected.

By the other method of binding, the whole rim is put on in one piece and fitted the same as the four pieces described above. By the aid of the file and the hammer this can be done in a short time, after a little practice. When fitted it is to be removed, the blocks or teeth oiled, and softened wax pressed around in its place and stuck to the plate. After this has hardened, the teeth are taken off and the plate filled with plaster and sand up to the wax. When this has set, the wax may be removed, the rim put back in its place against the plaster and sand, held securely there by binding wire and clamps and soldered on the outside, after wetting with borax and carefully filling the joints with gold foil. If neatly done it gives a beautiful finish to the plate and also brings out the upper part of the lip near the *alæ nasi*, a part which it is sometimes difficult to make prominent enough to restore the original contour of the face. It also prevents that ragged appearance given to the upper part of the artificial gum by the chipping off of the thin edges. In every respect we think it an improvement well paying for the extra time and expense incurred.

MR. GEO. CLAY'S ARTICULATOR.



The above cut represents the best frame for the construction of an antagonizing model for double sets of teeth which we have ever seen.

The joint and motion of the lower part upon the upper, is so near that of the inferior maxillary that when the length of the teeth is changed the relative position of each part will be the same as in the mouth. The two parts are kept at the proper distance by a screw in the joint. If the dentist has but one of these frames and is constructing two or three double sets at the same time, the plaster models may be removed while others are put in and again returned to suit the convenience of the operator. The blocks may also be preserved for future use if desired.

§ Mr. D. H. Porter has made some slight improvements upon this frame, which makes it still more convenient, and keeps them for sale at his laboratory, 290 Broadway.

SHOULDER BRACES FOR DENTISTS.

There is no kind of business which is more trying to the shoulders, the spine, and the chest, than that of filling teeth. Many have had their constitutions broken down by this constant stooping over the operating chairs. The position in which the dentist is obliged to place himself, to reach and see into the cavities of the upper back teeth, especially on the left side, must necessarily be that of stooping and bending forwards. Occupying this position, as he is obliged to do, if engaged in active business, many hours every day, has a constant tendency to contract the chest and throw the shoulders forward. In this condition the lungs are cramped for want of breathing room, the diaphragm is depressed, the abdominal muscles become relaxed, the spinal marrow and the nervous system generally sympathize, and in short there is a general weakness, and a prostration of the whole system.

Having suffered in this way we were led to try artificial support in the form of shoulder braces; but these again cramped the limbs and impeded that freedom of motion and ease without which it is impossible to work with any comfort. At length we were induced by the recommendation of a friend to try the shoulder brace manufactured by Mr. H. F. Briggs, who had been a practicing dentist, and experienced the difficulties which so many others complain of. This brace he had first constructed for himself, and had experimented and worked upon until it answered every purpose. We have now worn it for several months, and so easy and comfortable is it, that when operating we are not conscious of its presence; but when our work is finished and we feel inclined to stoop for rest we find ease and comfort in the support which the brace imparts. "It is," in the language of Dr. Briggs, "a monitor

which warns you when wrong, and gently pulls you back from the paths of crookedness." It also answers the purpose of suspenders, and for both sexes puts the weight of the nether garments on the shoulders, instead of hanging it about the hips.


Dr. Briggs' office is at No. 49 Chambers street.

CORRUNDUM WHEELS AND FILES.

When Dr. C. S. Brewster was visiting in this country during the past year, he presented us with several specimens of thin slabs or files, for cutting away mineral teeth after they were mounted, either on plates, or in the mouth, where a wheel cannot be conveniently used. The material of which they are composed, corundum, is cemented together by a resinous substance so as to give them any desired convenient form, and being harder than emery cuts away the tooth much faster. Corundum is associated in the same class of minerals as emerald, ruby, topaz, and many of the most precious and hardest stones. Emery belongs to the same class. The finest specimens of corundum are found in Greece near Athens. The files which we have used were manufactured by Ash & Son, of London, but the wheels of various sizes are now made by Messrs. Jones, White & Co.

TO DELINQUENT SUBSCRIBERS.

We should be glad if any of our delinquent subscribers would point out some way by which we could dun them without giving offence. If we keep back the last number of each volume (our original plan) after sending the first eleven, they seem to think that we are unwilling to trust them, and instead of remitting have written us that they would send the money if we would forward the last number. Others complain of having received *several* notices to pay up. We should be much obliged to all if they would remit when they receive the first notice, and save us the trouble of repeating it; but as very many have neglected to do so, we shall be obliged to keep back the next number until they do.

 Owing to Dr. Parmly's absence from town, his answers to the questions contained in our last, upon the use of amalgam, are deferred until our next number.

NEW YORK DENTAL RECORDER.

Devoted to the Theory and Practice of
SURGICAL, MEDICAL, AND MECHANICAL DENTISTRY.

Vol. V.

SEPTEMBER, 1851.

No. XII.

“HILL'S STOPPING.”

DR. C. C. ALLEN.

Dear Sir:—I very cheerfully, and gratefully accept the offer of your Recorder, as a medium through which to communicate to the Dental profession the result of my experiments with the above named compound.

My object will be, to make a *fair* and *impartial* statement of its merits, so far as my interest in the matter may be supposed to allow and I trust that my regard for professional honesty will enable me to state the truth, and that my professional brethren will acquit me of any *intention* to deceive.

It is now about three years since I commenced using the article known as “Hill's Stopping.” I have, probably, used it much more extensively than any other person, and have watched it with an interest, and a care, that no one else could feel. I am, therefore, in all probability, best qualified to speak of its merits or demerits of any one in the profession. This, I shall now proceed to do, as briefly and fairly as possible.

And in doing this, I shall endeavor to anticipate those questions most likely to arise in the mind of any Dentist unacquainted with this compound. And perhaps the best manner of doing it will be in the form of question and answer.

For the sake of precision then, let us enquire.—1st. In what cases can “Hill's Stopping” be used to advantage?

I answer—in *all* cases of caries of the teeth, where there is no direct friction from mastication. For example: I know of nothing more pleasant, convenient or useful as a stopping, when applied to those cases where the teeth decay upon their labial surfaces. It is so like the teeth as to color, and such a *perfect* protection, where it is applied, and it can be applied with so much more comfort to the patient, than gold, that it only needs a thorough trial to be approved by those who use it.

How long will it last in such cases?

This is more than I can tell. Where I have used it in such cases it still remains, and bids fair to remain for an indefinite number of years.

And my opinion is, that when it is *properly* applied, it will average better than gold, and fulfil every intention of a *permanent* stopping, in the cases above named.

Is it adapted to the lateral edges of the front teeth ?

In answer to this question I would observe that I have used it in many such cases.—I have it in one of my own lateral incisors, badly decayed, and the result of my own experience and practice is such as to warrant the opinion that it is an extremely neat, and useful filling, in just such cases. Indeed, I believe, that where the teeth are strong, and the mouth cleanly, it is not surpassed by any thing, as a perfect protection against caries.

It must be remembered, that even gold stopping is only successful, in proportion as it is well applied—and to the strength of the teeth and cleanliness of the mouth. It is subject to the same contingencies as gold in this regard, and if it occasionally fail from causes which effect even gold itself, it should not be condemned.

But I trust I shall be pardoned when I say that there are cases where I think it even better than gold. I am aware that this may seem to border on heresy, but let me explain.

Suppose a case where the front teeth are extremely frail and delicate, where the cavities are large, and the parieties thin and somewhat broken—where the fluids of the mouth are profuse and acid, and where the teeth crumble under it like chalk. Here you have a case where it is confessedly difficult to fill with gold, and even where this is practicable, the teeth will decay around the gold, so that it will fall out for want of support.

Therefore, in a case of this description, it seems to me that a plastic compound like the one under consideration, that can be used with so much more ease and comfort, both to patient and operator, is really *the best under the circumstances*. This clings to the walls of the cavity, and thus adds to the strength of the tooth, while at the same time it gives the most perfect protection that any filling is capable of giving.

It is the doctrine of the best operators of the present day, that gold is the best and most suitable stopping that can be used for any teeth that are capable of being filled with any thing. To this, as a general rule, I most heartily subscribe. But are there no exceptions? Let us see.

It will not be denied, that the specific gravity of gold is much greater than that of a tooth, or the substance of a tooth, equal in bulk to a gold stopping. This then, is an objection to gold, for it must be admitted,

that the delicate relations subsisting between the tooth and its connexions, has been wisely adjusted to *its* precise specific gravity. Now, if perfection in this department is ever attained, this objection must not remain.

And in my mind, where the fangs and crowns of teeth are densely filled with this material, this objection is entitled to more consideration than it has ever seemed to have from the dental profession, especially where "ten or twelve sheets of gold foil" are introduced into one cavity.

The same objection must lie against any metallic filling whatsoever, in proportion to its specific gravity. But there is still another objection to gold, as well as other metals, viz; it is a *rapid conductor* of heat and cold.

How many cases of failure, in filling sensitive teeth is justly attributable to this cause, I presume none will undertake to say. But a little reflection will convince any fair minded man that it cannot be without its influence.

Now, if a substance, answering all the purposes of gold in other respects, and free from these objections, can be found, ought it not to have at least a fair trial? And I here undertake to say, that for filling *large cavities* and *fangs* of teeth, "Hill's Stopping" is the best thing known to the profession.

It is a non-conductor.

It is impermeable to fluids.

Its specific gravity is about the same with a healthy tooth.

It is perfectly innoxious and safe.

It is nearer the color of the tooth than any other filling.

And it can be applied with less than half the trouble.

And now what are the objections to its use in such cases?

The following plan I have found to succeed:

In the case of a large cavity in a molar tooth, decayed upon its grinding surface, and extending to the fangs, I prepare it precisely as if I were going to fill it with gold. I then wipe the cavity entirely dry, (this is very important.) Every thing being in readiness, I fill it perfectly full with the "Stopping," taking good care to introduce it in such a manner, with a blunt instrument, as to prevent hydro-static pressure. This, when well done, makes the most perfect stopping in the world. No moisture or air can penetrate it in any way.

I then excavate a cavity *in the filling* to suit myself, and then introduce gold foil in the form of a cap, to protect it against friction. This,

in my judgement, is much to be preferred to filling the cavity and fangs with pure metal.

And now if the reader still claims that gold is the best for an entire filling in *such cases*, let him demonstrate the fallacy of such practice as I here recommend, and invalidate the reasons given therefor.

How will it answer as a filling for the approximal surfaces of the bicuspid and cuspidati?

Where the cuspid teeth are badly decayed, I have often found it to answer a valuable purpose as a filling. For small cavities in these teeth, I think gold is preferable, and should be used. If the stopping were as hard as gold to resist friction in mastication, it would be preferable in *every* case as a filling for teeth. But such is not the fact, and until this can be accomplished, it must remain subordinate in its application.

In filling the approximal surfaces of the bicuspid and molar teeth, the operator finds his most difficult work. To fill these well with gold, where the cavities are large, and the floor of the cavity broken, is to give pretty sure evidence of superior skill in this department of dental practice. And many must be the failures, before he can command uniform success in such cases.

Here my experience will not allow me to recommend "Hill's Stopping," except for *temporary* purposes. For in mastication, the food will press between the teeth where they have been filed away, and thus gradually wear away the soft filling. They will stand however for several months, and in cases of diminished friction, for a year or so. Where circumstances will admit of it, I would say, let them be *firmly* and *compactly* filled with gold.

My object in this paper, is not to mislead my professional brethren, but to state the truth as to the utility and advantage of "Hill's Stopping." Where a molar tooth is filled upon its grinding surface with this compound, it will stand for years, if there be no antagonizing tooth to meet it. Some of my first experiments in such cases, are as perfect this day, as when first filled.

In cases where clasps or bands are used for the support of artificial teeth, my experience has justified the most sanguine expectations, in the use of this article, and any individual who is unwilling to use amalgam, in such cases, will find this a great convenience. For stopping the temporary teeth of children, all things considered, *it is unrivalled*. Where arsenic is used for the destruction of the pulp, and if a safe

covering is required, it is just *the thing* needed. And this is true in *all* cases where temporary fillings are required. As a filling for the teeth, I am impressed with the fact that this compound is more successful in some mouths than it is in others. Perhaps this is true to an equal extent with every other article that is used, not excepting even gold.

The precise cause of this difference is not perfectly clear to my own mind. I have occasionally filled large cavities in the molar teeth, with the whole grinding surface exposed, where all the service of mastication was performed upon the stopping, and yet no depreciation or waste is apparent after a long service. In other cases I have had them waste away quite rapidly. This may be owing in some instances to a difference in the composition of the article itself. Yet I am unable to detect the cause. That there is a difference in some cases in the composition, I am well satisfied, yet the cause remains inappreciable. The difficulties in its preparation and temperament are so great that time alone must overcome them, although I labor to make each successive issue, *better* than the former. If varied experiment, and the most dogged perseverance can perfect the compound and render it all that is desirable, I shall yet hope to accomplish it. I can even *now* make an article very hard, and in all respects save *one*, what has so long been sought for. Yet *this one* fault still condemns it, for most purposes. It is of a dark color—and I have not yet been able to make it sufficiently hard, but at the expense of its color, plasticity, or harmlessness in the mouth.

Having thus briefly stated what I think the profession most desire to know, I have only to state a few more particulars as to how and where this article may be had, and the best mode of applying it.

That it is both convenient and useful to the profession, every man knows who has condescended to give it a fair trial. Many testimonials from the best operators in this country might be given, but these perhaps are unnecessary here. I think that Dr. Amos Wescott did not overrate the matter, when he remarked to me, at the recent meeting of the American Society at Philadelphia, that "he considered it *indispensable* to a Dentist." Yours, very truly,

Norwalk, Ct. Aug. 25th, 1851.

A. HILL.

COMMUNICATION FROM DR. PARMLY.

To the Readers of the Dental Recorder :

Absence from home nearly every day from the time the July number of the Recorder was issued until the 9th of August, when Dr. Allen

wrote for my communication, I could not possibly furnish it for that number. I have replied to Dr. Allen's "remarks," which replies extend this article beyond the limits Dr. Allen is willing to allow in the Recorder, or that I have any right to ask. I will publish them at some future time in the Recorder if I can obtain Dr. Allen's permission to do so, if not, in some other paper. Dr. Allen's questions I have answered according to my own experience, aided by the experience, investigations and testimony of others. The truth of which I will at all times defend.

Ques. 1st. Does Dr. Parmly believe that amalgam, when used with the same care and skill that should be exercised when stopping with gold, will preserve teeth from decay, and if so, how does its preservative qualities compare with those of gold under the same circumstances and condition of the tooth?

Ans. I have never seen a tooth filled with amalgam where there seemed to be the same care and skill exercised that a good operator would exercise in filling with gold—nor have I ever seen one, particularly when the stopping was large and worn for some time that was not in a state of decay and much blackened by the amalgam. The cause of the decay or blackening is well described by a distinguished chemist of New York, who had a tooth filled with amalgam by an eminent dentist who has himself been "chemically educated," which tooth, after much suffering I extracted, and after a minute examination of it by the owner, he presented me with the following testimony.

"The cause of the blackening of the bone of the tooth under the influences alluded to, seems to be, sulphuret of the protoxide of mercury, which is produced by contact of the gelatinous portion of the tooth with the amalgam of silver and mercury, which being porous, absorbs moisture, and thus induces magnetic action, producing the decomposition of the gelatin of the tooth as well as of the amalgam, which yields a portion of its mercury in the process.

"Then the combination of these substances, viz: silver, mercury, and moisture, produces the decomposition of the organized matter of the tooth, and, consequently, of the amalgam. Such being the case, it follows—that the affinity of the two metals being broken by their reaction on the one part, and that of the organized portions of the other, a porous body is formed of the amalgam, by the particles of the mercury having partially left the silver to form a compound with the surrounding body; which, acted upon by the oxide of mercury, produces a pulpy black substance, (probably phosphate and carbonate of lime stained by sulphuret of mercury, with a little azotized matter,) that remains semi-solid, while it is in contact with the moisture of the mouth."

Its preservative qualities bear no comparison with gold—a gold plug

of the largest size will remain in contact with the living substance of a tooth for ten, twenty, or thirty years, without producing the slightest change in the condition, color, or texture of a tooth. A plug of amalgam of the same size, would in two or three years in some cases cause the tooth to become black, in others it would destroy its vitality, and in others, as above described, break up its entire structure, of which facts, I can produce any desired number of specimens, which changes cannot be shown in teeth carefully filled with gold. I am frequently called upon from extreme suffering to extract teeth that have been so filled by the first dentists in the city or country, who use amalgam, and which teeth would have been saved, if skill in the dentist and the preservative qualities of amalgam could have saved them, and most of which would have been saved if gold had been skillfully employed.

In confirmation of the above I will make a single extract from a well written treatise on the teeth, by S. M. Shepherd, who says in relation to amalgam—"To say nothing of the pernicious qualities of this compound, my acquaintance with it has long since satisfied me that it does not arrest decay. I have been called upon in numerous instances to remove fillings of this kind and replace them with gold, and I recollect only one instance in which I did not find the teeth in a more or less rapid state of decay under the fillings, and in some instances in a high state of inflammation."

Ques. 2nd. How long has he ever known an amalgam filling to remain in a tooth without any apparent waste or corrosion from the surface exposed to the secretions of the mouth?

Ans. The tooth that has been filled with amalgam longer than any other with which I am acquainted, is one which I have already spoken of, which has aided in supporting an artificial set, some eight or ten years. The tooth is dead and black throughout, caused by amalgam, but which stopping does not seem to diminish in size by waste or corrosion, or from the wearing of the spring or clasp, which completely covers or embraces the whole exposed surface of amalgam.

Ques. 3rd. Does amalgam, when used for filling teeth, produce any different effects upon those with and without living healthy pulps, and if so, what is that difference? and has he submitted any teeth, that had been filled with amalgam, to chemical or microscopical observation, which had healthy live pulps in them when extracted? if so, what was the result, and how many pulps has he ever known to be destroyed by amalgam in teeth which were in a favorable condition to be filled with gold when amalgam was put in?

Ans. I am frequently applied to to remove amalgam stoppings and substitute gold ones, which I uniformly do in front teeth having "living healthy pulps." I have never yet removed an amalgam filling where the bone beneath it was not blackened by the amalgam, sometimes to a slight, sometimes to a great extent, varying according to the time that it has been worn, and to the size of the filling. I have never extracted a tooth filled with amalgam with a "live and healthy pulp." The teeth that I have extracted which have afterwards been submitted to chemical and microscopical examination are such as have been taken out from pain or from a diseased condition of the mouth, occasioned in all cases, as I believe, (if healthy when filled,) by the deleterious effects of the amalgam upon the tissues of the teeth, or upon their investing membranes. The effect of amalgam upon the teeth and their living structure is very fully and very accurately described by Henry Goadby, M. D., F. L. S. &c. &c. &c., in his examination of a tooth I presented him, in which he says—"I made three longitudinal sections for microscopic investigation, and found that those tubes of the Dentine which opened into the artificial cavity of the tooth and were necessarily in *intimate contact with the metallic stopping*, had absorbed it completely, and were filled with it.

* * * From the internal boundary line of the artificial cavity of the tooth, the metal had *ascended* into the enamel, and descended with the *crusta petrosa*. In the latter tissue the corpuscles of Purkinje and their connecting canaliculi were as full as the Dentinal tubuli; but what is most remarkable *the solid prisms of the enamel* have in a like manner succumbed to the penetrating influence of this amalgam." A very large proportion of all the teeth that have been filled with amalgam, that have subsequently come under my observation, are those with diseased pulps—what their condition or state was when filled, I cannot say farther than what their owners have told me. I have extracted many that had been previously filled with gold, which was worn for a number of years with great comfort and benefit, but the gold having either been taken out, or had fallen or worn out, amalgam was substituted, which my patients have informed me completed its work of destruction generally in two or three years.

Ques. 4th. What reason has Dr. Parmly for believing that amalgam ever produces injurious effects upon the system, (I mean any degree of pyalism) and how does he suppose those constitutional effects can be produced by it?

Ans. My reason for "*believing*" amalgam produces injurious effects upon the system, is the unmistakable condition in which I have seen

many persons after it has been used in their teeth, and from the unvarying testimony of others who have in like manner witnessed its effects, which are uniformly described by them in the same way. As to the constitutional effects produced by it, I "*suppose*" they are produced in precisely the same way that the same effects are produced by receiving mercury into the system in any other form, whether it be in the form of ointment, vapor, pill or cataplasm.

The effects in many cases may be and most likely are produced by evaporation, for, according to the experiment of Professor E. N. Horsford, a mass of metal completely saturated with mercury may by evaporation become wholly divested of it, and the metal left in its natural or original state or condition. This being true, a mass of mercury, so passing off from a lot of amalgam plugs, must, every particle of it, inevitably be received into the system, and Dr. Allen knows very well that there is enough in one plug, such as I have in my possession, to affect half a dozen people who are highly susceptible of its influence. The evaporation thus explained by Professor Horsford, will also account, for the porous and spongy condition of the amalgam fillings, after they have been sometime worn, which spongy state can be seen by a common magnifying glass.

Ques. 5th. Does amalgam ever produce any local effects upon the gums and secretions of the mouth, except such as are manifested when the whole system is in a state of pyalism? If so, will he give his reasons for this effect, and the *modus operandi* by which it is produced? and what reason had Dr. Parmly for saying that the disease of the antrum maxillare, described by him in the New York Journal of Medicine, Vol. 9, page 374, was "unquestionably" caused by amalgam, in the tooth which he extracted?

Ans. The local effects produced by amalgam, and generally observed in mouths where much amalgam has been used, have been a soft and spongy state of the gums, rendering them liable to bleed at the slightest touch. An exceedingly impure or foetid breath, approaching in quality to that which is exhaled when the system is in a state of pyalism.

As the question as to the "*modus operandi*" of mercury has never been settled by the ablest physiologists who have written on the subject, I must throw the question back to Dr. Allen for him to explain what has never before been explained. Why the "*modus operandi*" of the minutest portion of mercury taken by one person will affect the whole system, while fifty or one hundred times as much taken by another will produce no effect whatever. Dr. Allen may consider such

questions gentlemanly and courteous, but I must own in all frankness that of the hidden and mysterious working in the stomach of *mercury* or *mussh*, I know nothing—nor can I say why it is that one by its “modus operandi” will, when taken into the stomach, in a short time destroy life, and why the other by its “modus operandi” will, as Dr. Allen and myself both well know, keep the body in most comfortable health. therefore refer the question back for an answer from Dr. Allen.

The *effects* of the “modus operandi” of mercury when taken into the system from amalgam plugs, is well described by J. Stearns, M. D. who says—

“Regarding as I do the profession of dentistry as a science which ought to be ranked among the honorable professions, I therefore feel it my duty for the public good, and the honor of your laudable profession, to expose the vile quackery that is being practised on the community in this section, by an itinerant dentist, to the great injury of many individuals, and the success of the practice of dentistry. I will here give a statement of a case which has fallen under my observation. Miss R. S. called me to visit her. I found her with febrile symptoms; her tongue, gums, and glands swollen; a free discharge of saliva, a foetid breath, etc. I asked her if she had ever been salivated. She said never. It was positive, however, that she was under the influence of mercury, and then found that two or three weeks before, she had had several teeth filled with “Royal Mineral Succedaneum”—the teeth were very loose. The next day I removed one of the teeth, found it perfectly dead, and the alveolar process affected, which I have since removed, including almost the entire socket of the tooth.

“I have since been called to a Mrs. W., who has since been severely salivated by the use of the same compound.”

My reason for saying the antrum disease was unquestionably occasioned by the use of amalgam, was that the young lady had a perfectly healthy mouth before the amalgam was put into it. A constant uneasiness was felt by her from the time it was put in until pain, inflammation, and swelling supervened, which resulted in the most distressing and obstinate form of antrum disease I have ever witnessed. I did not extract the tooth before consulting with, and having the examination of one of the ablest surgeons in this country, who pronounced the disease what I described it to be. The removal of the tooth, with proper treatment, effected a perfect cure in a few months.

Ques. 6th. Are wisdom teeth, when there are no other molars left to masticate with, if badly decayed on their labial and posterior surfaces, teeth badly worn by gold clasps, molars, and fangs which are too much decayed to be filled with gold, (in leaf or tube,) ever “worth preserv-

ing," and can Dr. Parmly preserve them with any kind of filling as long as he has seen them preserved by amalgam?

Ans. Wisdom teeth are often of very great value. I never have yet seen one filled with amalgam where a much better filling could not have been made of gold tin or lead, for preserving the tooth by a careful and skillful operator. I do not now recollect of any case answering to Dr. Allen's description. I have never seen a diseased fang filled with amalgam that did not reflect disgrace upon the one who filled it. Of all the objectionable forms in which amalgam is used in dead teeth, (and all are objectionable,) using it in dead and diseased fangs, I conceive to be the greatest, and nothing can in such cases justify its use.

Ques. 7th. In what situations and conditions of teeth does Dr. Parmly think it justifiable to use tin fillings, and are they in any cases, and under any circumstances better than gold?

Ans. Tin being softer than gold it is more easily and more safely pressed into a weak or shelly tooth—it also more readily takes the shape and adapts itself to the inequalities or irregularities of the surface of a superficial cavity, and in such a cavity may often be retained as long and sometimes worn much longer than gold, and while it is so retained, it answers all the purposes of gold in saving the tooth from further decay. From its not being subject (at least in some mouths) to oxydation, it produces no change whatever in the color or texture of the tooth, which may be thus preserved by occasional refilling, as long as it can be with gold, and if the durability of tin could be relied upon with the same certainty as that of gold, it would answer nearly all its valuable purposes; but its permanency cannot be so relied upon. In some mouths, from constitutional or other causes, ("the *modus operandi*" of which perhaps Dr. Allen can explain,) tin very soon becomes decomposed and blackened, while in others the same tin will remain for years unchanged—and when it does so remain, undergoing no change in itself, and producing none in the tooth, it is, while it lasts, just as good as gold in preserving the tooth from decay. When it can, from its softer or more maleable quality be secured in a tooth where gold cannot be so secured, either for a long or short period, it may always with safety be used, and in such cases, will, of course, for the time being, do better than gold. I have in the last two or three years found cavities where "Hill's Stopping" answered better than either gold or tin from the teeth being so loose that they would not bear the pressure of either. It is justifiable to use tin wherever and whenever it is called for either by the circumstances of the tooth or the circumstances of the patient—or

where there is room to doubt the success of a gold stopping, or to apprehend its failure.

Tin, therefore, as a substitute can be used in many cases with great advantage, where it might not be prudent or advisable to use gold, but because it can be so used, it cannot as a material for filling teeth, in truth be said to be "better than gold," for if it could, the same might be said of "Hill's Stopping," of white wax, and gum mastick, all of which have their relative value—and it is often convenient to use them as temporary stoppings, and, as such, they answer a good purpose. But the most beautiful, the most perfect, and the best stoppings I have ever seen, or that ever have been seen, were made of gold, and no art can make of tin or of any other material yet discovered, stoppings that are equal to, or that will compare with them in point of value and durability. It is a common practice with amalgamists to say that "amalgam is better than gold," and others, both in speaking and in writing "*hastily*," are of that number. One well known to the profession, in order to convince his patients of the superiority of amalgam over gold, said—"I have taken out a bushel of gold stoppings, and put in amalgam ones," &c. I may be in error, but I think that a person might with just as much truth and propriety say that falsehood is better than truth, because it may sometimes, and "in certain cases," answer his purpose better, as to say that amalgam is better than gold, because it may possibly "in certain cases," answer a better purpose. In the present state of our knowledge, and of dental science, gold is the only thing that can be permanently relied upon as a stopping for teeth. I therefore subscribe to the correctness and truth of Dr. Koecker's statements, when he said—"It cannot be denied that gold is the only proper substance for plugging teeth," in the same general or restrictive sense that one would say that it cannot be denied that fine steel is the only proper substance for making cutting instruments—or that truth is the only proper qualification for the editor of a scientific Dental Journal.

September, 1st, 1851.

E. PARMLY.

P. S. I will answer with pleasure any question on any professional subject with which I am acquainted, and as our aim in this matter is to come at strick professional truth, and as it is "desirable," as Dr. Reese says, "to bring the disputation within the limits of a nut shell," I propose to Dr. Allen the following questions.—

Questions, with answers by the Editor.

Ques. 1st. Which of the two undergoes the least change in color, or

produces the least change in the color of the tooth, pure tin or amalgam?

Ans. This depends very much upon the character of the secretions of the mouth, there are those that will change the surface of a tin or amalgam filling as black as ink in a few days. In a healthy mouth, and in teeth with living pulps, an amalgam made of chemically pure mercury, silver, and tin, will remain for years without changing the color of the tooth more than tin would do, and without becoming darker on its exposed surface than steel or iron.

Ques. 2nd. What advantage is there in an amalgam plug over a good one of tin, and for what reason should amalgam be used in preference to tin where both are equally admissable?

Ans. An amalgam plug put into a cavity, on the masticating surface of a molar, will outlast half a dozen tin fillings, and for this reason I prefer it in my own teeth, where I have had both for at least eight years.

Ques. Why should the shell of a front tooth, too weak to bear gold be filled with amalgam that will soon turn it black, instead of with "Hill's Stopping," that will produce no change in its color, and why is amalgam better in such cases than "Hill's Stopping"?

Ans. I know of no reason why amalgam *should* be put into such a shell, unless it be because the patient prefers a black, or dark tooth, to an artificial substitute, and the dentist thinks that he can do better for him with amalgam than with "Hill's stopping,"—if so, I can see no evidence of a want of "integrity" in the dentist, though I should disapprove of such practice.

N. B. As to "Hill's Stopping," it is comparatively a new article, and at present "on trial." So far as I am acquainted with its properties, I think well of it in such cases as Dr. Hill recommends it for, but amalgam I have tried and proved, and *know* to be good when and where I recommend it.

Ques. 4th. What quality has amalgam that tin has not in preserving teeth from decay, and, as tin produces no change in color, why is it not, in all cases, where it can be used, a better stopping while it lasts than amalgam?

Ans. It is much harder, and does not wear away like tin, it is more plastic and fills the cavity more perfectly than tin, and it has a peculiar preservative effect upon a tooth which tin has not, nor any other material that I am acquainted with. Tin does change the color of a tooth very much, by becoming changed itself when in contact with dead dentine, and by showing its own color through a thin translucent shell.

Amalgam in dead dentine and in unhealthy mouths changes more than tin, with this exception, it is superior to tin (in my opinion, in every respect.

Ques. 5th. Tin and amalgam being of nearly the same cost (amalgam least) to the dentist, why should they not be used at the same expense to the patient. And what justifies charging more for amalgam than for tin, by the same individual?

Ans. It is not my business to regulate the charges of any dentists, if it were, I would put up the fees of some who are comparatively unknown, while there are others of more extensive fame and reputation that I would cut down. Most dentists, whose fees are known to me, if they use amalgam charge the same for it as for tin.

Ques. The same time, skill and labor, (according to Dr. Allen,) being required in the use of amalgam, as in the use of gold, what was it that enabled the "good gold filler," whose gold stoppings command a "high price," to fill the "poor sewing girl's teeth" with amalgam at fifty cents each? Was it solely on account of the difference of cost to the dentist, between the two, gold and amalgam?

Ans. This is not "according to Dr. Allen." I stated in reply to one of Dr. Parmly's questions in the July number of the Recorder, that "the mere filling of the cavity" of a tooth, (the principal "labor" where foils are used,) was more simple when amalgam was used, but that the preparation of the tooth for filling, required the same study, skill, and art, whether gold or amalgam were to be used. Now, no one knows better than Dr. Parmly the expense of gold for filling large cavities, or the labor required to properly condense it. It is not for me to judge the benevolence of the dentist who used amalgam for "the poor sewing girl's teeth," any more than I would Dr. Parmly's, if he had done the work and used tin instead of gold.

Ques. 7th. What is it that makes an amalgam stopping better than a good one of tin or lead, where either and all can be equally well secured?

Ans. See answers to questions second and third.

I have no objection to the use of tin for filling teeth; but, on the contrary, believe it to be better than gold in some cases, and in others think amalgam is superior to either. I have always used tin, and in much the same way and for the same reasons that Dr. Parmly does, except that I hold with Dr. Harris that, "Any tooth that can be filled with tin can be equally well filled with gold." The policy of using it in those doubtful cases where a tooth may fail in a few weeks or months is, to say the

least, doubtful, especially for persons in moderate circumstances. Upon the propriety of the use of amalgam, however, Dr. Parmly and myself do not enjoy the same unanimity of opinion, and the reason perhaps is explained in his answer to my first question. If he has "never seen a tooth filled with amalgam where there seemed to be the same care and skill exercised that a good operator would exercise in filling with gold," and if he has never filled one himself with the same care and skill, it is not strange that the fillings should appear bad. I know there are many more bad ones than good ones. It seems to me also that Dr. Parmly has not discriminated, as I wished him to, in his answers to my questions, between the effects of amalgam upon teeth with and without pulps. Where there is no pulp in a tooth we all know that amalgam stains it more than tin would do, and for that reason I do not use it in dead teeth; but where there is a live pulp, the effect is different, and the tooth is but little if any more stained by it than by tin. Neither does Dr. Parmly reply to my question "how many pulps has he ever known to be destroyed by amalgam," &c. I wished particularly to know that, for I have five or six in living teeth in my own mouth, put in for the very purpose of testing this point, and have been using it in living teeth in my practice for several years. If it does destroy the vitality of pulps in the practice of others, I should like to know it, although I have never met with a case in my own.

I think there can be no doubt about the preservative influence of amalgam, in the mind of any dentist who sees fillings in mere shells of teeth, which have been in from five to fifteen years, and I will venture to assert that if Dr. Parmly will mix a quantity of mercury and silver, and expose it to a heat of 100° for ten years, that not one grain of the mercury will escape, and furthermore, that the porous conditions of many old amalgam fillings, which he has seen, is owing to the coarse silver fillings used, and not to the escape of mercury. I have tried experiments enough to prove this.

I have repeatedly requested those who have seen cases of salivation produced by amalgam, to show me one, but it has not been convenient for them to do so. Any person who knows anything about the effects of mercury and diseased and dead teeth upon the mouth, has only to read the case reported by Dr. Stearns, to be satisfied that there was no salivation there, but only a diseased periosteum around the teeth, which had caused, and always will cause, the very symptoms there described, and which a superficial observer might readily mistake for salivation. Any candid person who examines the surface of an amalgam filling

after it has been in eight or ten years I think will be satisfied that enough mercury to salivate a flea, would not escape or be worn away from all that could be put in thirty-two teeth, yet the thing is barely possible. I can see no reason why Dr. Parmly should think me unfair or ungentlemanly in asking him how the local effects of amalgam upon the gums is produced. I wished his opinion "whether its peculiar effects," to use the language of a medical committee, "are produced by the absorption and *direct* application of the mercurial oxide to the parts involved, or whether it does pass into the *general circulation* before its local effects can be evolved," or whether the local effects are produced by irritation or in some other way.

As to the superiority of gold over amalgam as a substance to be *generally* used for filling teeth, there is, I presume, no difference of opinion between Dr. Parmly, the gentleman who has taken out "a bushel of gold fillings, and put in amalgam ones," and myself, but I consider that it is justifiable to use amalgam for the same reasons and in the same cases, except in dead teeth, that Dr. Parmly justifies the use of tin. If tin or amalgam is not better for the tooth under all the circumstances, why use it? If it is, why not say so, without telling a falsehood or sacrificing "honesty" or "integrity"? It seems to me that all Dr. Parmly's arguments against persons who use amalgam, "saying that it is better than gold," are mere special pleading. That there are a plenty of lying vagabonds who travel about the country and plaster up teeth with amalgam, who could not fill decently the simplest case with gold, we all know, and that the course which Dr. Parmly and his associates have taken to condemn them may have done some good, no one will deny; but what we complain of is, that in condemning them, he has made no discrimination, but sweepingly declared that he had "no longer confidence in the professional integrity of others who use it." This is the principal point of difference between us, which I find necessary to restate frequently to clear away the fog and dust which he continually raises about it.

DENTAL COLLEGE AT SYRACUSE, N. Y.

We learn that this institution will commence its first course of lectures on or about the first of December, the new building, now being constructed for it, cannot be completed before that time. There will be a faculty composed of five Professors, the arrangement of the depart-

ments allotted to each chair will be similar to that in the Baltimore College, with a Professorship of Chemistry superadded.

This will make three Colleges for qualifying young men for the practice of Dental Surgery in our country, and each one well located for supplying the wants of its different sections. The Baltimore College, for the South, the Ohio College for the West, and the Syracuse College for the North and East. The location of the last is well chosen, and with the energy and talent of Professor Westcott connected with it, we have no doubt but what this institution will honorably and successfully compete with its older and now well established rivals. The "Annual Announcement" of the lectures and course of instruction, has not yet been received.

The indications at present seem to be that Dental Surgery is to be taught as a distinct profession, and as such it must always rank second to that of medicine, though with well instructed dentists there will always be enough of intellectuality and science to make the profession rank above mediocrity when compared with the other professions, arts, and trades, which are followed by all who aspire to make themselves useful in the world. Only let us have the dentists well instructed, and we shall never be ashamed to own our business; but with a large portion of the "craft," who that possesses one particle of self-respect can fail to "blush to own himself a" dentist?

AN IMPROVEMENT IN ARTIFICIAL GUMS.

The following article from the Dental Register of the West, with the letter which follows it, from Dr. Hunter, will give some idea of the improvement alluded to in the proceedings of the American Society of Dental Surgeons, in our last number.—We do not suppose that the letter of Dr. Hunter contains a full account of Dr. Allen's plan; but, as we are an advocate of free trade in dental ideas, we publish it for the benefit of experimenters, who may perhaps obtain some hints from it. Since it was in type Dr. Allen has furnished us with an extract from the Proceedings of the Mississippi Valley Association and a letter, which, to be just to all parties, we are constrained to publish.—*Ed. Recorder.*

DR. TAYLOR, SIR :—Permit me through the medium of the Register, to reply to some of the numerous inquiries that have been made by correspondents within the last few weeks, with reference to my new method of setting artificial teeth upon metallic plates, which consists in

flowing in an artificial gum, between, and upon the teeth, and uniting them firmly to each other, and to the plate upon which they are set, by means of a fusible silicious cement, which was noticed in the last number of the Register.

Dr. B. desires to know whether the method of setting teeth can be employed upon ordinary gold plate. *Answer:* Not with perfect safety, for the degree of heat necessary to fuse the cement would probably melt the plate, especially if it be not more than sixteen or eighteen carets fine. I use gold twenty-two carets with no alloy but platina. I also use plantina plates which I think still better, as there is less contraction or expansion in platina than gold, when subjected to a strong heat.

He wishes to know whether the teeth can be kept in their proper position upon the plate while the gum is being flowed upon them.

Answer. By this method, the teeth maintain precisely the position in which they are placed upon the plate.—This is done by means of a composition, with which the teeth are covered preparatory to fusing the cement, which neither contracts, expands, nor cracks, when subjected to a white heat, consequently no tooth in a full upper or lower set, can become displaced in the least by the fusion of the cement.

The composition has been sought out for this purpose by the inventor of this method of setting teeth, as there are no other substances now known in use, which possess the requisite properties.

S. thinks it may do, if there is any way to repair them when they get broken off the plate. It seems hardly necessary to provide for a contingency which is not likely to occur, for no ordinary use in the mouth can break them. But if by a fall, or otherwise, a tooth should get broken, it can be readily replaced with a new one, by means of the cement, and so perfect in appearance as to elude detection, and with much greater facility, and less trouble than to solder on a tooth in the usual way.

W. is of the opinion that the teeth would be still more secure upon the plate if they were soldered on. From experience thus far, we find the cement amply sufficient, without any other fastenings. But where it is desired, back plates, and also clasps for partial sets of teeth, can be soldered on with great facility, and that too without the use of the blow-pipe or soldering lamp.

In short, this method, as a whole, (for it embraces a number of new and important features,) constitutes an entire new system, which presents to the public the dawn of a new era in the history of the dental art, for by this means the profession will be enabled to reach a higher degree

of perfection in the artificial department, than it has ever before attained, and in point of BEAUTY, STRENGTH, CLEANLINESS, DURABILITY, ECONOMY, FACILITY and SIMPLICITY, it cannot be surpassed. Numerous persons desire to know in what way the profession is to acquire a knowledge of it. *Answer:* by written or oral and practical instruction—the latter is preferable. This will necessarily involve some expense. The inventor has devoted HIMSELF closely to this subject between eight and nine years, at an enormous expenditure, for the purpose of developing the principles and gaining the points he has at length attained, believing that a generous public will cheerfully reciprocate in its response for that which tends to promote the general good, and that a liberal profession will be ready and willing to reimburse a member through whose instrumentality it has been brought forward to a stand point never before occupied.

The inventor would prefer giving practical instructions at his own laboratory, to those who are within a convenient distance, and who desire to acquire a knowledge of this method of setting teeth.

Those who reside at a distance can be furnished with written instructions published in pamphlet form.

The times of imparting instruction must necessarily vary according to circumstances, but a practical dentist can acquire the *modus operandi* in from one to two days. Those who are students in the Ohio Dental College, will possess advantages in this respect that others cannot reasonably expect, as the inventor occupies a chair in that institution.

J. ALLEN.

* We give place to Dr. Allen's letter, merely having room to say that we regard the color of the gum which the Doctor uses as much improved since we first noticed it. We believe the Doctor has spent much time and money in perfecting this improvement, for we regard it in *very many cases* as a great improvement, which must lead to a great change in mechanical dentistry. The quality of the materials used must necessarily be far better than is generally used by the profession, and this we think is of some consequence. The Doctor regarding it strictly as an improvement in mechanical dentistry, has, we believe, taken steps to obtain a patent. To this we are aware many of the profession will object, at present we would merely remark that we believe that Dr. Allen will give the profession no just cause of complaint.—*Ed. Register.*

Cincinnati, Sept. 8, 1851.

DR. C. C. ALLEN.

My Dear Sir:—Noticing in the last number of the Recorder, under the head of “Proceedings of the American Society of Dental Surgeons,” an account of the exhibition by one of its members of several specimens of *his* improvements in artificial gums, I feel that a few words from one who knows something of the boasted improvement, may not be out of place.

The *modus operandi* not having been explained, I take upon myself to give a few hints that will accomplish that end, and although not at a cost of much “time, labor, and money,” I hope will be just as *thankfully* received.

Procure an English enameled iron vessel, such as is used for culinary purposes, break out the enamel, and treat it with muriatic acid, to get rid of the oxide of iron adhering to the fragments, wash, dry, and pulverize, and it is ready for use, or if you prefer manufacturing the article, get a copy of Ure’s dictionary, and examine the article under the head Enamel, in the supplement, and you will get all the desired information.

Arrange your teeth upon *platina plates* with wax, after which encase them and the gum side of the plate, in plaster and sand, there being only plaster enough to unite the grains of sand, after which, remove the wax by heat or otherwise, and you are ready to apply the enamel under the teeth and upon the backs, after having made a paste of the proper consistency with water. Fire up to a full red heat, and withdraw your slide from the muffle, repair defects with more enamel, and fire again, after which, if perfect, remove the plaster and sand from the face of the teeth, and apply a fresh lot to the posterior of the same, and the enamelled surface, being careful that it also covers the cutting edge of the teeth to hold them in place—now fill up the front according to your taste; if it does not please you, fire until it is perfect, and you are ready to paint the gum, which can be made from the same material, by adding 1 gr. Glass of Borax, and 1 gr. English Rose to each dwt. of dry material, and grinding fine.

It will not take “several years of experience,” with the above information, to make as good work as ever was made in that style—but do not be led away with the results you may produce, *untried*, for rest assured there is not that case in existence that has been worn a half dozen months, that length of time not having yet elapsed, since the recipe was first offered for sale to the profession, by Mr. Steemer, who has been engaged for some time in enameling iron ware for a firm in this city,

and who has since produced an enamel that flows, and accomplishes the same ends even upon gold or silver plates.

I have not entered into the minutæ of the handling of a dental apparatus, (for the benefit of the novice) supposing that any *dentist* with the hints given, will be able to make a case if he chooses, by way of experiment *or for show*—not for a moment thinking that any one in his sane mind, will depend upon the substance as a proper union for his teeth to the plate, when good stiff stays of metal are found to be none too strong, and decidedly neater in appearance, and much less weighty.

Respectfully, Wm. M. HUNTER.

EXTRACT FROM THE PROCEEDINGS OF THE MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

At the recent annual meeting of the Mississippi Valley Association of Dental Surgeons, held in the city of Louisville, Ky., it was Resolved that—

Whereas, Dr. J. Allen of Cincinnati, has been for several years engaged in prosecuting a series of experiments, of which we have been cognizant, for the purpose of acquiring principles, by means of which an artificial gum could be formed upon mineral teeth, and metallic plates, in such a manner as to unite them firmly to each other, and thereby render more perfect the present method of setting artificial teeth on plate. And, whereas, the results of his experiments have been highly satisfactory to the members of this association, as exemplified in the specimens he has exhibited. And, believing it due to any member of our society, who devotes his time, money, and talents to the advancement of any particular branch of the profession, so that benefit may result therefrom, that some action or commendation from us is necessary,

Therefore, in view of the great benefit which must result to the profession, and the public generally, from the indefatigable exertions of our brother Dr. J. Allen, in producing a mineral substance, by the use of which artificial teeth may be more perfectly placed in the mouth, and made to resemble the natural organs of mastication.

Resolved, that a committee of three be appointed to examine the specimens presented by Dr. Allen, and report to this meeting.

Report.

The committee to whom was referred the Preamble and Resolution, with the specimens presented by Dr. Allen, would offer the following report, viz :

That they have examined the teeth cemented together, and to the plate by Dr. Allen, and have subjected them to the following test.

They have tried the strength of adhesion, and believe that no ordinary force such as used in masticating food will loosen them from the plate, indeed, so far as they can judge, the adhesion to the plate is much the same as that affected by solder. Hence the entire base being secured by the cement, there is greater solidity, and no room for the lodgement of particles of food about the teeth, thus forming substitutes for the block work, possessing all the advantages of Block work, with more strength and greater security to the plate.

They have subjected the gum to the action of nitric and sulphuric acids, and after the pieces had lain over night in the acids, they find no appreciable effect made on them, although the acids were in a concentrated form.

The committee are satisfied that this mode of securing the teeth to the plate recommended by Dr. Allen, possesses cleanliness, strength, and, as far as we can judge, durability. The committee would remark, that in using this cement the plate used by Dr. Allen is platinum, and pure gold alloyed with 4,100 of platinum, and this greater purity of the metal which more effectually resists the action of the secretions of the mouth, they regard as advantageous, because it secures the public against the use of inferior gold in Mechanical Dentistry.

In view of the labor and expense to which we are satisfied Dr. Allen has been subjected in bringing this improvement to its present state of perfection, and the advantage to the profession which its adoption we think will insure, we therefore recommend the following resolution.

Be it resolved, That Dr. Allen deserves all commendation for his indefatigable exertions in the developing and making available a new and important improvement in Mechanical Dentistry, and that we recommend this improvement to the profession as worthy of their attention.

JAMES TAYLOR,

W. H. GODDARD.

Letter from Dr. J. Allen.

For the Dental Recorder.

DR. ALLEN.

Dear Sir:—Permit me, through the medium of the Recorder, to make a few remarks with reference to my new method of setting artificial teeth upon metallic plates. Having been for more than twenty years engaged in the dental practice, I have been able to discover many of the imperfections of our art, some of which it has been my ambition to try to overcome.

Although the present usual modes of setting artificial teeth are far in advance of what they were, even twenty years ago, yet the apparent want of perfection in point of APPEARANCE, STRENGTH, CLEANLINESS, &c., induced the writer to take another step in advance of our present stand point, and arrive, if possible, to a higher degree of perfection in this branch of our profession. To the accomplishment of this object he has devoted much time and attention for several years past, and the result is, he now has the pleasure of announcing to the dental profession that he has attained the object of his researches, and has gained the following principle points, viz : A beautiful artificial gum, great strength and cleanliness, together with other advantages, of minor importance.

The writer is aware, that such is the nature and importance of this improvement, that as a general thing it will meet with public favor, yet it must pass the same ordeal, and share the same fate of all other valuable improvements, for there are those who are always ready to denounce every thing that does not originate with them, for they know all that is worth knowing ; there are others, who are ever ready to set up their presumptive claims without even a line upon record to show that they were ever entitled to them. There are also those who, through private pique, or sinister motives, not only denounce but vainly attempt an expose based upon false premises, and thereby endeavor to mislead the public mind.

But all these are of little consequence, and sink into insignificance when compared with the great benefits that result from valuable improvements. Respectfully yours,

J. ALLEN.

DENTAL SURGEONS.

The fifth Anniversary of the formation of the New York State Society of Dental Surgeons was celebrated on Tuesday evening September 9th, at Butt's Hotel in Murray-st., by a dinner, speeches, &c.

Previous to the dinner the Society held their regular annual election of officers, when the following persons were chosen :

C. C. ALLEN, M. D., President.

J. G. Ambler, First Vice-President.

T. H. Burrass, Second Vice-President.

F. H. Clark, Recording Secretary.

B. Lord, Corresponding Secretary.

M. K. Bridges, Treasurer.

T. K. Spencer, Librarian.

Executive Committee.—F. P. Chase, J. Lovejoy, G. H. Schaffer, B. F. Maguire, Geo. Clay.

Examining Committee.—C. C. Allen, S. Covell, B. Lord.

The company then sat down to a bountiful dinner, which being discussed, the Chairman of the Committee of Arrangements read letters in answer to invitations from Drs. C. A. Harris, of Baltimore; G. E. Gardette, of Philadelphia; Daniel Harwood, of Boston; G. A. Foster of Utica, and Isaac Greenwood and A. L. Cox, of this City.

Several toasts were given and responded to by Dr. Keep, of Boston, Dr. S. Brown, Drs. Ambler, Bridges, and several others, and the company separated at an appropriate hour.

NEW YORK MEDICAL COLLEGE.

This institution is comparatively young, this being the second year since its organization, and coming into operation since the formation of the American Medical Association, it has been among the first to carry out some of the recommendations of that institution, for the improvement of medical education. Thus the regular lecture term is extended to five months, the examination of candidates for graduation is conducted before three censors who are in no way connected with the college, and who must approve of the candidate before the college can confer his diploma. The diploma is conferred without any fee and the faculty, therefore, have no interest or inducement to give it to those who are unqualified.

A preliminary course of lectures, free to all medical students, will commence at this institution on Monday the sixth of October, and continue until the commencement of the regular course, October 20th. During the course, Dr. C. C. Allen, by the request of the faculty will deliver eight lectures on Dental Pathology and Dental Surgery. The object of these lectures will not be to make Dentists of the students, as there will be no opportunity to demonstrate the various operations which the dentist performs; but to explain the connection between the diseases of the teeth and other parts of the system, and, if possible, to give those who are to be our future doctors, some idea of the qualifications which the dentist should possess, that they may be able to judge whether they ought to countenance and recommend him or not.

DENTAL RECORDER.---EXTRA.

With reference to Dr. Allen's new method of setting artificial teeth, the following is an extract from the proceedings of the American Society of Dental Surgeons, at its twelfth annual meeting, held in Philadelphia.

"Dr. Allen exhibited some specimens of a new method of mounting mineral teeth. On examining the sets of teeth, which he exhibited, they presented somewhat the appearance of block gum teeth, without any visible means of fastening. They were, however, firmly fixed to the plate. Dr. A. stated that the improvement consisted in a material he had discovered, which fused at a white heat without shrinking, attaching itself at the same time to the teeth and plate. Ordinary single plate teeth are used and arranged in the usual way; when they are properly adjusted, some of the material he uses, is moulded around them neatly, so as to form a gum, and to fill all the spaces between the teeth and plate. The whole is then put into the furnace and subjected to a high heat—the material between the teeth and plate fuses and attaches itself so firmly, that the teeth will break before the connecting material will give way. As the plate is subjected to this high heat, it is alloyed with platina, to prevent it from melting. On being asked what was the material used, Dr. A. declined stating, alleging that the proper means of successfully using it, could only be acquired by personal instruction, which, for a just compensation for his time and labor, he was disposed to give. Dr. A. said he was opposed to taking out a patent for improvements in the profession, and although a caveat had been filed in the patent office for this particular improvement, it might be there forever. But as he had spent a great deal of time and labor and thousands of dollars to accomplish this object, he thought it but right that he should have some return for it. This he only desired, as we have stated, in the way of compensation for instruction, which he was ready to give.

"Since the meeting of the association, we have heard, through a friend, that Dr. Hunter of Cincinnati, declares that he has a better material than that which was exhibited to the association by Dr. Allen, and that he will publish the method of preparing it."

If Dr. Hunter has a better material, why does he not publish his own recipe, instead of what he *conceives* to be another man's? for in the first instance, he might throw some light upon the subject, but in the latter he only makes darkness more visible, for he knows nothing of Dr. Allen's recipe or *modus operandi*.

J. ALLEN.

LECTURES.

The lectures of Dr. C. C. Allen will be given at the New York Medical College in Thirteenth street, commencing on Tuesday, Oct. 7th, at 11 o'clock, and continuing for two weeks each day, Mondays, Saturdays and Sundays excepted. They are free to the Medical and Dental professions, and their students.

